

EFFECTS OF THE TEXAS 4-H EQUINE AMBASSADOR SHORT COURSE ON 4-H  
YOUTH AND THE PERCEIVED IMPACT ON EQUINE PRODUCTION  
KNOWLEDGE, CAREER AWARENESS AND PROFESSIONAL DEVELOPMENT

A Dissertation

by

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## ABSTRACT

Texas 4-H youth were selected and participated in the Texas 4-H Equine Ambassador Short Course. Twenty-four equine ambassador participants attended the 2015 Texas 4-H Equine Ambassador Short Course held at Lone Oak Ranch and Retreat. The equine ambassador participants served as the census population for the evaluation study. The five-day short course was an intense introduction to equine science principles delivered by university professors and staff, Texas A&M AgriLife Extension faculty and industry representatives. The purpose of the short course was to create advanced educational resources for a selected group of 4-H youth on advanced nutrition and feedings, importance of being an agricultural advocate, team building, hay selection and analysis, communication, agricultural issues, problem solving, hoof and shoeing, health of the horse, equine marketing, equine sales and an overview of agricultural career development. A group consisting of fifty-two Texas 4-H State Horse Show participants, comparable in age, education and experiences to that of the equine ambassador participants were selected to show equivalency to the study.

The theoretical framework of this study surrounded the work of the experiential learning models. The equine ambassador participants experienced The National 4-H Experiential Learning Model during the Texas 4-H Equine Ambassador Short Course. The Dreyfus Model of Skill Acquisition was utilized to analyze the results of the level of equine expertise evaluated through the self-assessment instrument. The model describes how a learner transitions from a novice-to-expert within a learning environment. A pretest and posttest equine content knowledge exam evaluated the equine ambassador

participants perceived impact of the program regarding their equine production knowledge gained following the Texas 4-H Equine Ambassador Short Course. A pretest and posttest self-assessment instrument evaluated the equine ambassador participant's level of equine expertise, perceived career awareness and professional development following the Texas 4-H Equine Ambassador Short Course. The participants perceived the Texas 4-H Equine Ambassador Short Course to increase their understanding of equine production knowledge, equine expertise, career awareness and professional development.

The results of the study indicated that the Texas 4-H equine ambassador participants demonstrated a change in their equine production knowledge, equine expertise, career awareness and professional development following the Texas 4-H Equine Ambassador Short Course. The results of the study also indicated the need for continued support for advanced educational opportunities to develop youth 4-H members in the state of Texas. Future research should include replicating this study with a larger sample size, using technology following the program treatment to monitor animal advocacy, investigating the parents of equine ambassador perceptions of the program compared to that of the participants and lastly, to replicate in an alternate state.

## DEDICATION

First and foremost, all glory is given to God. But thanks be to God! He gives us the victory through our Lord Jesus Christ (1 Corinthians 15:57). There is no way I could have make it through this PhD journey without his continued wisdom, guidance and love.

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## NOMENCLATURE

4-H- A youth organization within the Cooperative Extension Service, that emphasizes uses of the student's Head, Heart, Hands and Health to create better citizens of the future.

Cooperative Extension Service- Created with the passing of the Smith-Lever Act of 1914, as a division of the United States Department of Agriculture, it is charged with delivering non-biased, and research based information to the public.

4-H Livestock Project- A situation where a student takes ownership of a livestock animal and is responsible for its care and health, in preparation for a livestock show.

County Livestock Shows- An event where 4-H and FFA youth exhibit animals against others within their county.

Major/State Livestock Shows- Competitive events where 4-H and FFA members exhibit their animals against others from throughout Texas. Examples of major shows include the State Fair of Texas, Houston Livestock Show and Rodeo, San Antonio Livestock Show, Fort Worth Livestock Show and San Angelo Livestock show.

Livestock Project Workshop/Clinic- Educational events where 4-H youth and families enhance their livestock production knowledge and showmanship. A subject matter expert is usually brought in to provide training and guidance for the 4-H families. This includes clinics at the club, county and regional levels.

## CHAPTER I

### INTRODUCTION

#### *4-H Pledge*

*I pledge my head to clearer thinking, my heart to greater loyalty,  
my hands to larger service, and my health to better living,  
for my club, my community, my country and my world.*

#### **History**

The Morrill Act of 1862 created land grant universities that conducted research regarding the improvement of agriculture and mechanical arts. To enhance the land grant system, the Smith-Lever Act of 1914 formed the Cooperative Extension Service, and in 1916, the Cooperative Extension Service created the 4-H program. Through the years, the 4-H program has flourished into the largest youth program in the United States (Fiske, 1989). Today with over 6.8 million members nationwide and more than 610,595 leader volunteers, 4-H has expanded its curriculum beyond traditional agriculture to include: community service, communication arts, consumer and family sciences, environmental education, earth sciences and leadership (National 4-H Council, 2003). Texas 4-H strives to reach new populations in order to increase educational contacts. There are over forty-four individual projects within 4-H for youth to remain involved (Texas 4-H Youth Development, 2015).

The Texas 4-H Youth Development Program, initially created in 1908 by a county agriculture agent, was originally an education-oriented program targeted toward rural American families (Feldpausch, 2006). The original goal of the program was to

educate farming families in new farming techniques, thus creating youth groups with an agricultural focus, such as the corn and tomato clubs and later beef calf and pig clubs. As the program expanded and population demographics changed, the goal of 4-H evolved into the mission of “preparing youth to meet the challenges of childhood, adolescence, and adulthood, through a coordinated, long-term, progressive series of educational experiences that enhance life skills and develop social, emotional, physical, and cognitive competencies” (Texas 4-H Youth Development, 2015). Texas 4-H originally targeted rural youth, but has since expanded to include all youth between the ages of 5 to 19 years of age. Texas 4-H youth are separated into age groups that include: a) clover kids ages 5 to 8, b) junior ages 9 to 13, and c) seniors ages 14 to 19. National 4-H has a network of more than 6 million youth, 611,800 volunteers, 3,500 professionals, and more than 25 million alumni (National 4-H Council, 2015).

There are forty-four project areas, ranging from agriculture and natural resources to economics and public policy, are offered to Texas youth, who may also participate in other 4-H activities, events, contests, and trips throughout the year (Texas 4-H Youth Development, 2015). It is proven that participation in the 4-H animal science program does have a positive influence on life skill development, in particular the ability to accept responsibility (Ward, 1996).

## **Texas Equine Impact**

Texas is home to over one million horses, representing approximately 15% of all horses nationwide (Texas 4-H Youth Livestock, 2015). Texas leads the nation in number of registered American Quarter Horses, American Paint Horses, Appaloosa Horses and American Miniature Horses. More than 953,983 Texans are horse industry participants and there are 288,839 Texas horse owners (Texas 4-H Youth Livestock, 2015). The Texas horse industry has a statewide economic impact of more than \$5.2 billion a year (Texas 4-H Youth Livestock, 2015). In terms of comparison with other industries and their effect on the Gross Domestic Product (GDP), equine are on the same level as the motion picture industry, apparel manufacturing and tobacco industry. Not only does the horse industry have a great impact on the United States, as a whole, it also does in the life of many 4-H youth. It is important, for a number of reasons, that equine related programs teach a broad spectrum of horse-related material to consistently reach young equine enthusiasts in Texas (Cavinder, Antilley, Briers, Sigler, Davidson, & Gibbs, 2010). It is well documented that working with horses can create positive changes in adolescents (Smith, 2004) and possibly even improve basic life skills in young adults (Evans, Jogan, Jack, Scott, & Cavinder, 2009). Additionally, those participating in horse-related activities can experience beneficial improvement in self-motivation, responsibility, confidence, and self-esteem (Iannone, 2003; Saunders-Ferguson, Barnett, Culen, & TenBroeck, 2008).

### **Texas 4-H Equine Ambassador Short Course**

The Texas 4-H Equine Ambassador Short Course began in 2012 at the Lone Oak Ranch and Retreat in Gainesville, Texas. Each year the Texas 4-H Equine Ambassador Short Course trains approximately twenty-five new students. The Texas 4-H Equine Ambassador Short Course is highly competitive. Applicants submit their application (Appendix A) through the Texas 4-H website. The mission of the Texas 4-H Equine Ambassador Short Course is to provide high school aged (14-18) 4-H members the opportunity to develop and practice advanced leadership skills related to mentoring other youth, and to become advocates for the equine industry in Texas (Texas 4-H Livestock, 2015). The selection criteria for the short course includes: (a) senior aged (14-18 years) 4-H youth that have exhibited a superior level of ambition regarding their equine projects, (b) students with a profound interest in equine science and animal production, and (c) students who have shown advanced leadership qualities and the willingness to help others. The ambassador selection is comprised of only 4-H members within the state of Texas. To be accepted into the program youth members must show leadership in their community, participation in extracurricular activities, passion for agriculture and an interest in the equine world.

The short course program facilitates and encourages the use of community based learning. The program uses many methods to create a learning community. The idea of learning for the benefit of a community has been well established. Bransford, Brown, and Cocking (2000) proposed “Learners of all ages are more motivated when they can see the usefulness of what they are learning and when they can use that information to

do something that has an impact on others-especially their local community” (p. 61). Given the previous statement, it follows that the equine ambassador participants are motivated to learn as it helps their immediate needs as learners, but also can recognize the impact the training will have on novice livestock exhibitors when they return to their respective communities. Further, the students are part of a larger community as members and ambassadors for the animal agriculture community. The Texas 4-H Equine Ambassador Short Course spends considerable effort to build the connection of what the students are learning to the high impact work of mentoring youth people and advocating for animal agriculture. The literature supports the program’s efforts as it shows the students the real importance and function of the work they are doing. John Dewey (1938) discussed the role of an educator and states “...education is essentially a social process. This quality is realized in the degree in which individuals form a community group” (p. 78). The provided theory of community group is in line with the Texas 4-H Equine Ambassador Short Courses effort to encourage the students to form a community-learning group. The community-learning group is formed the first day of the program. The twenty-five ambassador participants work together and form a bond much like a tight community. The program administrators also created a Texas 4-H equine ambassador Facebook page for transfer of information and a virtual learning environment where the students can communicate. The page provides a forum for discussion of learning and experiences. Recent Texas 4-H Equine Ambassadors are combined with past graduates in the short course in the online learning community. Educators are also part of the community and are available to assist



throughout the student's ambassadorship. Dewey also theorized the educator must be part of the community. "It is absurd to exclude the teacher from membership in the group, as the most mature member of the group he has a peculiar responsibility for the conduct of interactions and the intercommunications which are the very life of the group as a community" (p. 78). Dewey's statement validates the need for the learning community with the addition of faculty. The short course utilizes faculty to introduce material and assist in the learning process within the student's ambassadorship during the training process. In truth, John Dewey was not familiar with social networking in his writings; however the fundamentals of his community of learners are satisfied in the discussed online community and in the community of learners that is built during the program.

As previously stated, the Texas 4-H Equine Ambassador Short Course purpose is to deliver educational resources to a group of 4-H youth through a comprehensive short course of advanced nutrition and feeding, importance of being an agricultural advocate, team building, hay selection and analysis, communication, agricultural issues, problem solving, hoof and shoeing, health of the horse, issues facing the equine industry, equine conformation and selection, breed selection, equine marketing and sales and an overview of agricultural career development. The Texas 4-H Equine Ambassador Short Course trains the students to become equine project leaders in their communities, ultimately assisting novice 4-H youth with their equine projects. The short course consists of four intense days of training and development of the future equine ambassadors (Appendix B) for a detailed daily schedule of activities.

### **Statement of the Problem**

Little is known about Texas 4-H Equine Ambassador Short Course effectiveness in regards to equine production knowledge, career awareness and professional development. Texas 4-H makes a great effort to increase equine and livestock production knowledge of senior 4-H members through project clinics and workshops. Most of these clinics target novice and beginner 4-H member, therefore leaving a void in advanced equine animal science education for senior and experienced 4-H youth. A study was needed to investigate the perceived impact the Texas 4-H Equine Ambassador Short Course had on the participants to ascertain equine production knowledge, career awareness and professional development.

### **Purpose of the Study**

The purpose of the study was to investigate the change in equine production knowledge, perceived change in career awareness and professional development of the equine ambassador participants following completion of the Texas 4-H Equine Ambassador Short Course. The study was conducted using an evaluation research method with an equine content knowledge exam, and pretest and posttest self-assessment instrument to measure the specific research questions listed below.

1. Describe the demographics of the Texas 4-H Equine Ambassador participants.
2. What was the perceived change in the awareness of career opportunities of the Texas 4-H Equine Ambassador participants following completion of the Texas 4-H Equine Ambassador Short Course?

3. What was the perceived change in professional development of the Texas 4-H Equine Ambassador participants following completion of the Texas 4-H Equine Ambassador Short Course?
4. What was the perceived change in the level of equine expertise and equine content knowledge of the Texas 4-H Equine Ambassador participants following completion of the Texas 4-H Equine Ambassador Short Course?
5. How did the Texas 4-H Equine Ambassador participant's career awareness and professional development compare to the Texas State 4-H Horse Show participant's before the Texas 4-H Equine Ambassador Short Course.

### **Significance of the Study**

The Texas 4-H and Youth Development Program reaches more than 50,000 through club memberships and approximately more than 550,000 through outreach educational programs (Texas 4-H & Youth Development, 2011a). It is of great importance to Texas 4-H & Youth Development to educate youth in order to become advocates in their local communities. Based upon the results of this research study, the Texas 4-H Equine Ambassador Short Course can be recognized as a leader in fostering equine content knowledge, career awareness and professional development, leading youth to become agricultural advocates.

### **Limitations of the Study**

The study was limited to a small population of 14-18 year old high school aged students involved in Texas 4-H and should not be generalized beyond the population.

## CHAPTER II

### LITERATURE REVIEW\*

#### **4-H & Youth Development**

Positive youth development is a framework that guides communities in the way they organize services and supports young people so they can develop to their full potential. The origins of the positive youth development framework are found in the fields of human ecology, prevention, resilience, and developmental assets (Pittman, 2015). Bronfenbrenner's theory of ecological human development teaches us that a child develops through interactions with their social environments such as, families, after-school programs, 4-H and many other social settings. According to Bronfenbrenner, the interaction between a child and his or her social environments is reciprocal (Pittman, 2015). Rather than focusing solely on behavior change among youth, the positive youth development approach seeks to change the environments in which young people grow, act, and make decisions (Pittman, 2015). Prevention analysis identifies risk factors that increase the likelihood of negative behaviors such as violence, abuse, school drop-out, and strategies for supporting at-risk youth. Resiliency analysis identifies the characteristics that buffer the impact of risk factors, thus increasing the likelihood of positive behaviors. These characteristics may be intrinsic to the child, or part of the child's environment (Pittman, 2015). Developmental assets are experiences, values, skills, and opportunities that young people need to develop to their full potential. Two sets of assets include: (a) external-traits that communities, schools and families provide and (b) internal-traits that the individual brings to the table (Pittman, 2015). 4-H strives

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to provide youth with the fundamentals and experiences to foster positive youth development.

4-H is the youth component of Cooperative Extension, the institutional manifestation of the mission of all land grant universities to share the knowledge of the university with the people of their state. Cooperative Extension and 4-H previously serving mostly rural communities, has now gained prominence in suburban and urban communities where they provide information on gardening, financial management, civic engagement, and other topics informed by university-based researchers (Hamilton, 2014). Along with growing demands from funders for evidence of program effectiveness, this was part of the background for the National 4-H Council raising the funds for rigorous research in youth development. Stokes' (1997) unique model called "use-inspired basic research" serves as an evaluation of youth development in 4-H. It is imperative for 4-H educators and practitioners to know that solid research affirms their professional judgment that participants derive many benefits from 4-H (Hamilton, 2014). Traditionally researchers have looked at components of development, such as cognition, emotions, social relations, and physical maturation, studying each component separately, and then tried to bring the separate components back together (Hamilton, 2014). Research in another tradition has focused on understanding known threats to healthy development teen parenthood, drug abuse, violence, school failure, and delinquency (Hamilton, 2014). Both of these approaches offer valuable insight, the trend over the past few decades has been toward more holistic, ecological conceptions and research designs. The term, "youth development," embodies their trend (Hamilton, 2014). By

definition it is a positive orientation that includes all aspects of development (Hamilton, 2014). The 4-H study of youth development has advanced the state of the art in research on youth development by employing an impressive array of analytical procedures with a large, partially longitudinal data set. The theoretical groundings are in Relational Development Systems Theory (Overton, 2010), which incorporates Bronfenbrenner's (1979) ecological approach to human development (Hamilton, 2014). In an article by Bowers et al., a complex set of issues surrounding young people's relations with adult outside their families were studied, especially how parenting profiles interact with those relations and with youth development "outcomes," defined in terms of the 5C's: (a) confidence, (b) character, (c) connection, (d) competence, (e) contribution and (f) caring. Mentoring programs target youth from single-parent families in the expectation that introducing another caring adult into the lives of such youth will compensate in some ways for the absence of a parent (Hamilton, 2014). This assumption is supported by research on resilience finding that the enduring presence of a caring adult, whether parent, other relative, or someone outside the family, is associated with thriving despite disadvantages (Werner & Smith, 2001). In some sense a mentor can substitute for a parent. Rhodes, Spencer, Keller, Liang, and Noam (2000) found that having a mentor improved relations in young people's relationships with their parents. This finding also supports the view that mentors complement rather than replace parents. However, Erickson et al. (2009) found that they do both, marginally enhancing the generally positive achievements of youth with both material and social resources at home, but

having a very large positive effect on youth with limited resources (Hamilton, 2014).

These findings demonstrate the importance of 4-H mentors on 4-H youth development.

The 21<sup>st</sup> century brings many challenges to the structure of families, communities, and places and types of work, and economic disruptions (Mincemoyer & Perkins, 2001).

For some youth it is a rather easy time, but for many it is the worst time of their lives.

For far too many youth, the infrastructure needed to foster healthy development has been dangerously eroded (Benson, 1997). These urgent concerns have increased attention on

all youth-serving organizations, and especially on 4-H, the national youth-serving

organization within the land grant university system (Mincemoyer & Perkins, 2001).

Preparing young people to meet challenges requires providing them with a foundation

that will enable them to make decisions that promote their own positive development

(Perkins & Borden, 2004). Thus, 4-H youth development programs are challenged to

focus on programming that enables youth to develop life skills, establish positive

relationships with adults and peers, and contribute to their communities (Mincemoyer &

Perkins, 2001). To meet this challenge, 4-H youth development programs must take

what is learned and applied from the extension knowledge base to increase youth's

assets and life skills and thus reduce their risks (Mincemoyer & Perkins, 2001). 4-H youth

development programs are designed to help young people develop the kinds of skills

needed to make positive, healthy decisions, both now and in the future (Mincemoyer &

Perkins, 2001). All 4-H curricula and projects, regardless of differences in content area,

provide youth with experiences that foster the development of skills and encourage them

to become contributing, caring members of their communities. It is also important for 4-



H educators, who implement programs, to be grounded in community youth development (Micemoyer & Perkins, 2001).

Community youth development is defined as creating opportunities for young people to connect to others, develop skills, and utilize those skills to contribute to their communities that, in turn, increase their ability to succeed (Micemoyer & Perkins, 2001). As with positive youth development, a community youth development orientation involves shifting away from just concentrating on problems toward concentrating on strengths, competencies, and engagement in self-development and community development. As such, community youth development is defined as purposely creating environments that provide constructive, affirmative, and encouraging relationships that are sustained over time with adults and peers, while concurrently providing an array of opportunities that enable youth to build their competencies, and become engaged as partners in their own development as well as the development of their communities (Perkins & Borden, 2004). A study conducted to create a community youth development framework for youth and family educators in terms of youth programming and community development (Micemoyer & Perkins, 2001). It is of great importance that 4-H mentors, educators and volunteers meet the needs of youth through the use of 4-H programs (Micemoyer & Perkins, 2001). A common framework ensures that the need is met regardless of what county or servicing state.

There are many studies focused on improving youth development within 4-H. Harder, Lamm, Lamm, Rose, and Rask (2005) focused on 4-H enrollment and retention. This study helps 4-H professionals to understand the reasons behind non-participation

and dropouts, which in turn allows professionals to focus on ways to improve these within program and youth development. It was previously noted that at any given time, participation in 4-H, scouts, and other youth organizations is skewed with 9 to 11 year olds comprising over half of the participants (Heinsohn & Lewis, 1995). The interests of the parents may also factor into the high rates of enrollment seen from ages 8-11. Heinsohn and Lewis (1995) also noted that for younger children, parents move their children into group experiences and determine the experiences and activities their children will have. High enrollment may also be indicative of recruiting efforts aimed at these ages (Harder et al., 2005). From a 4-H youth development standpoint, we need to provide adequate group experiences to ensure satisfaction within the 4-H program. A large increase in population occurs between the ages of 7 and 8, nearly doubling the number of members. Possibly, this can be accredited to the difference in opportunities offered to these age groups (Harder et al, 2005). Conversely, one observes that the steady decline in the member population begins at age 12 and continues on through age 18 (Harder et al, 2005). This decline supports the perceptions by 4-H agents that senior members are difficult to retain (Harder et al., 2005). It has been suggested that the loss of senior members is not a poor reflection on 4-H, but rather a part of the natural development of adolescents (Harder et al., 2005). Unlike younger youth, adolescents are given more autonomy in choosing their activities and often opt to leave a program chosen by their parents in favor of one of their own choosing. Additionally, adolescence is commonly associated with exploration and experimentation, as well as a time to commit to refining specific interests and strengths (Heinsohn & Lewis, 1995). Continued

involvement in 4-H may prevent an adolescent from having the desired time to explore new activities and contribute to an individual's decision to leave the program (Harder et al., 2005). These findings push the need for more 4-H programs that serve senior 4-H youth, similar to the Texas 4-H Equine Ambassador Short Course. The need for program evaluation is also a popular topic in terms of enrollment and retention (Harder et al., 2005). Texas 4-H programs, such as the Texas 4-H Equine Ambassador Short Course need to be evaluated in order to identify the strengths and weaknesses for program improvement.

According to Pittman (2003), the primary task of youth development organizations is to promote the socialization of youth by helping them reach their full potential. As youth are stopped by social barriers that hamper positive development, it is important that organizations such as 4-H provide quality youth development programming that makes an impact on youth (Hensley et al., 2007). Walker and Dunham (1994) also define youth-development as the process of growing up and developing one's capacities in positive ways. Research studies reveal essential criteria that need to be present to meet the needs of youth. These criteria then become the essential elements for quality programs for youth to attain positive outcomes leading to less risky behavior, helping youth to be fully prepared to enter into society (Eccles, & Gootman, 2002; Pittman, 2003; Brendtro, Brokenleg, & VanBockern, 1992; Minnesota Extension Service, 1996; National 4-H Impact Assessment, 2001; Search Institute, 2004; Astroth, 2001). Nationally, 4-H is advocating four essential elements that encompass the previously identified criteria (Kress, 2005). One of the essential criteria is for youth to

experience belonging. Pittman (2003) stresses the importance of engaging young people in their own development, leading to feeling a sense of belonging and inclusiveness. When youth are valued and needed, then they believe they belong and are more likely to stay involved in 4-H (Minnesota Extension Service, 1996). The National 4-H Impact Assessment (2001) also shows the importance of making sure young people perceive a sense of belonging. The importance of feeling a sense of belonging leads to the attainment of positive outcomes for young people (Kress, 2005). The feeling of being involved and belonging is associated with the asset of empowerment (Scales & Leffert, 1999). When youth feel valued and others view youth as a resource, then youth will make greater contributions to the organization to which they belong (Peterson, Gerhard, Hunter, Marek, Phillips, & Titcomb, 2001). Youth who have opportunities to make decisions “develop not only a sense of belonging and a strong ethic of responsibility, but also an understanding that they are accountable to themselves, their families, and their communities” (Scales & Leffert, 1999, p. 53). Outcomes achieved by youth when they have the asset of empowerment are: (a) increased self-esteem and self-concept, (b) greater sense of personal control, sense of optimism about the future, (c) greater achievement of self-actualization, (d) reduced delinquency, (e) reduced violence, (f) increased social skills, (g) increased levels of moral reasoning and thinking, (h) decreased school failure, (i) more effective parent-child relationships, (j) more complex relationships, (k) reduced substance abuse and (l) greater participation in community activities (Scales & Leffert, 1999). Hensely, Place, Jordan, and Israel (2007) conducted a study to determine if the 4-H experience meets the developmental outcome that

promotes positive youth development, belonging and inclusive environment for 4-H youth. The study revealed that as the degree of 4-H participation in Florida 4-H increases, members surveyed feel an increased sense of belonging and inclusiveness. This shows that, the more young people participate, the more they perceive that they belong and are a part of the 4-H organization. Having a sense of belonging and inclusiveness increases the likelihood of developing the positive attributes conducive to appropriate development. Having a sense of belonging may also encourage youth to stay enrolled in 4-H (Hensley et al., 2007). It is crucial for 4-H to recruit and promote participation in programs to foster positive youth development.

Another way to promote belonging is to build empowerment and allow youth to have a role in decision-making (Pittman & Fleming, 1991). Leaders, volunteers, and 4-H agents can build empowerment by asking youth for their opinions and then listening and acting on their input. Asking youth allows them to take ownership in 4-H (Hensley et al., 2007). Youth should be encouraged and get excited about being a part of an organization (Pittman, 2003). Encouraging youth can be accomplished through rewards given by leaders and peers for their successes and accomplishments (Peterson et. al., 2001). Youth should also be given tasks to complete and be made a part of the organization. Allowing teens to be leaders and to teach is shown to increase academic achievement (Russell, 2001). All of this plays a major part in youth development as a whole. This also demonstrates the prime importance of program evaluation in 4-H.

### **4-H Programming Impact on Youth**

The National 4-H program has long been hailed as the premiere youth organization of the United States and is known as the most recognizable part of the Cooperative Extension Service (Radhakrishna, 2005). Leadership and life skill development as defined by Miller (1976) is the development skills necessary for life to perform leadership functions in daily living. At 108 years old, 4-H has a long history of preparing the youth of the United States of America by developing life skills through projects and educational activities (Radhakrishna, 2005). The foundation of 4-H programming is rooted in four essential elements include belonging, independence, mastery, and generosity (4-H National Headquarters, 2009). The National 4-H Organization suggests that a sense of belonging may be the single most powerful positive ingredient programs can add to the lives of children and youth because youth need to know they are cared about and accepted by others. Through independence, youth gain valuable life skills such as personal responsibility and discipline. Mastery invokes not only skill and knowledge acquisition but also self-efficacy to take positive risks and accept challenges to focus on self-improvement. Generosity is most often used as a synonym for service; however, generosity goes beyond service to include the development of personal values such as compassion and tolerance (4-H National Headquarters, 2009). Anderson, Bruce, and Mouton (2010) found that 4-H alumni had experiences that demonstrated the four essential elements as outlined by 4-H National Headquarters. Many of the alumni interviewed cited relationships with adults, relationships with peers and networking as having a large impact on their sense of

belonging (Anderson, Bruce, & Mouton, 2010). Another theme that emerged that contributes to a sense of belonging was the mentoring of younger 4-H members, 4-H alumni stated a sense of fulfillment to be a part of youth recognizing their abilities and their talents and being able to use those through 4-H (Anderson, Bruce, & Mouton, 2010). Independence, as the acquisition of personal responsibility and discipline, was identified through the researcher's interview process. A common theme identified under the heading of independence-included confidence and the idea of self-efficacy (Anderson, Bruce, & Mouton, 2010). Mastery includes the basic knowledge and skill acquisition that 4-H is known for through its projects and activities. Also involved in mastery is the recognition of self-development and the ability to take risks and chances (Anderson, Bruce, & Mouton, 2010). Every alumnus interviewed credited 4-H to some success or accomplishment they had achieved, including communication and public speaking skills (Anderson, Bruce, & Mouton, 2010). Anderson, Bruce, and Mouton (2010) also found that service to the community via projects and teaching was a key part of developing life skills in alumni as well as service to the organization that was emphasized throughout the alumni's interviews. Many alumni stressed the point that they still would like to give back to 4-H, because they personally have received so much from the program (Anderson, Bruce, & Mouton, 2010). In addition, 4-H influence was found to be the foundation of the acquisition of critical skills. College level 4-H alumni had a positive belief about the influence of 4-H on their professional and personal development (Anderson, Bruce, & Mouton, 2010). College level 4-H alumni also had a

positive belief about how their 4-H program experiences had a direct impact on their career choice (Anderson, Bruce, & Mouton, 2010).

Cooperative Extension states that the 4-H program develops leadership and life skills among its members (National 4-H Council, 2003). To support this Goodwin, Carroll, and Oliver (2007) found that 4-H youth were more likely to demonstrate life skills than their peers. Meyers (1978) looked at leadership skills and found that participation in the 4-H programs significantly increased leadership performance on 4-H youth. Seevers and Dormody (1995) found that participation in 4-H leadership activities had a positive relationship with youth leadership life skill development. Boyd, Herring, and Briers (1992) found that participation in the 4-H program positively relates to perceived leadership life skill development. Ladewig and Thomas (1987) found that 4-H alumni were satisfied with 4-H's contribution to their personal development. Also a study performed by Fitzpatrick, Gogne, Jones, Loble, and Phelps (2005) asked alumni to identify life skills gained as a result of 4-H club participation. The common themes identified included: (a) self-esteem, (b) teamwork, (c) responsibility, (d) planning and organizing, and (e) cooperation. These findings were similar to the findings from Radhakrishna (Fitzpatrick et al., 2005). These researchers also posed the question, "Can the impacts of 4-H really be measured?" Fitzpatrick et al. (2005) states the answer is "Yes." Life skills learned have been tracked through the use of project records, fair exhibits, 4-H stories, testimonials, and interviews with 4-H alumni (Fitzpatrick et al., 2005). Radhakrishna (2005) conducted a study with 4-H alumni to determine the contribution of 4-H experiences to leadership, personal development and communication



skills. Radhakrishna found that 4-H greatly contributed to 4-H alumni's development in the areas of community development, including service and citizenship skills.

Radhakrishna also found that 4-H alumni perceived that their 4-H experiences greatly contributed to developing group interaction skills, leadership, and decision-making skills. Finally, Radhakrishna concluded that 4-H influenced them to finish high school, in their job or career selection, and whether to continue education beyond high school (Radhakrishna, 2005). Lastly, alumni also indicated that 4-H participation influenced them in preparing for a future leadership role and its responsibilities (Radhakrishna, 2005). These studies cumulatively conclude that 4-H members have developed critical life skills through the program including social skills, personal development, leadership, and responsibility (Anderson, Bruce, & Mouton, 2010).

Astroth and Haynes (2001) reported that their research showed that 4-H participants were *more likely* than other youth to: (a) succeed in school, getting more A's than other kids, (b) be involved as leaders in their school and community, (c) be looked to as role models by other youth, (d) help others in their community. Furthermore, Astroth and Haynes (2001) say that the 4-H kids surveyed told them that they were *less likely* than other kids to (a) shoplift or steal, (b) use illegal drugs of any kind to get high, (c) smoke cigarettes, (d) damage property for the fun of it, and (e) skip school or cut classes without permission. A study conducted by Goodwin, Barnett, Pike, Peutz, Lanting, and Ward (2005), supported the research of Astroth and Haynes. Goodwin et al. (2005) found that authenticating the significance of successful youth development programs like 4-H should be a priority in the minds of facilitators, legislature, and

educators. The 4-H activities don't simply teach youth skills in agriculture and home economics, but include non-formal, experiential educational programs that teach youth valuable life skills (Boyd, Herring, & Briers, 1992). The study of Goodwin et al. (2005) supports the conclusions made by Boyd et al. (1992).

### **Program Evaluation**

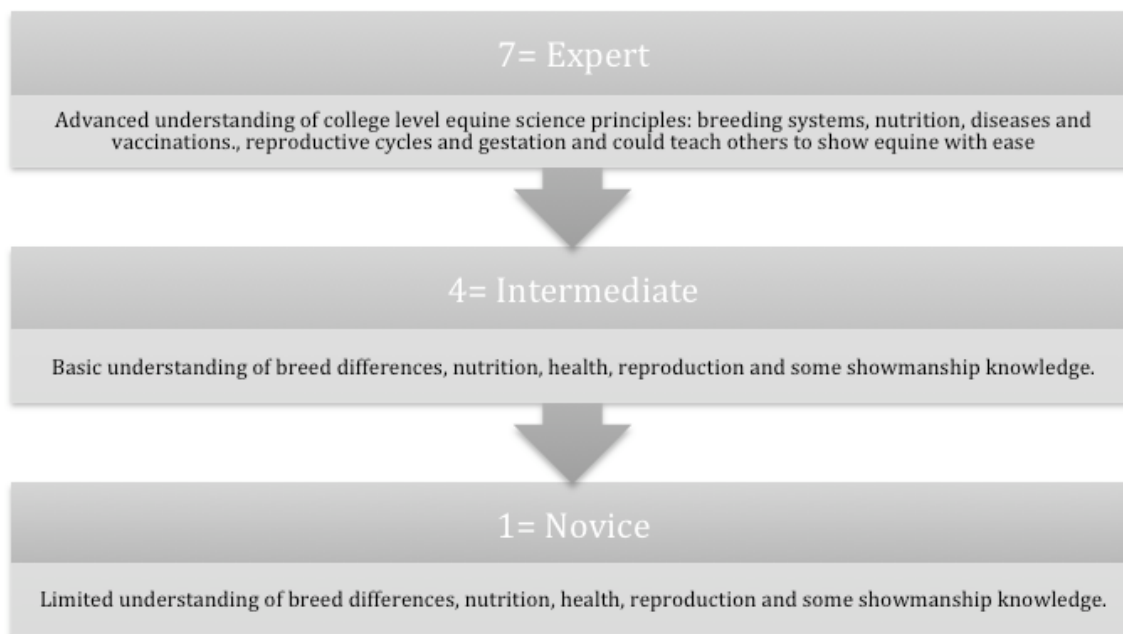
Steele (1970) states, "Evaluation must be purposeful and not done for its own sake. Evaluation should contribute to the present program or to further future programs" (p. 5). Extension educational evaluation can be defined as a process of determining the change in behavior of people resulting from extension educational programs or the process of determining the extent to which objectives have been attained (Steele, 1970). These definitions have guided major extension program evaluations such as: extension practice adoption studies of the 1940's, the evaluation of the Farm and Home Management Program in the 1950's, the evaluation of work with low income families in the 1960's, the consumer marketing program evaluations that have been carried on during the past twenty years, and many smaller evaluations done by individuals on their own program (Steele, 1970). Much of the framework for this concept of evaluation was drawn from the Tyler approach to curriculum development (Tyler, 1950). Much extension literature has focused primarily on methodology involved in collecting evidence of behavioral change (Bryn, 1959). Evidence of program evaluation is crucial to the success of any organization. Stufflebeam (1968) defined program evaluation as the provision of information through formal means, such as criteria, measurement, and statistics, to serve as rational bases for making judgments in decision situations. Harris

(1968) defines evaluation as the systematic process of judging the worth, desirability, effectiveness, or adequacy of something according to definite criteria and purposes. The judgment is based upon a careful comparison of observation data with criteria standards (Harris, 1968). Precise definitions of what is to be appraised, clearly stated purposes, specific standards for the criteria traits, accurate observations and measurements, and logical conclusions are the hallmarks of valid evaluation (Harris, 1968). There are two important ideas to be drawn from these definitions. First, evaluation must be purposeful and not done just for its own sake (Steele, 1970). Evaluation should contribute to the present program or to further and future programs (Steele, 1970). Evaluation should be a part of answering questions about the appropriateness of methods, content, and program approach so that extension programs can continually be improved and input to the programming process rather than an end to be achieved in that process (Steele, 1970). Secondly, evaluation has three essential elements, which includes: (a) criteria, (b) evidence, and (c) judgment (Steele, 1970). Steele (1970) also states that evaluation does not occur unless all three elements function. A third idea related to the first two is that the programming decision that needs to be made identifies the focus of the evaluation (Steele, 1970). As the number of extension staff members holding advanced degrees rises, the number having had at least one course in research methodology and statistics will also increase, which in turn aids in Extensions understanding of evidence collection (Steele, 1970). In addition, the number of good references on how to develop questionnaires, tests, and other instruments for collecting evidence has multiplied in the last few years (Furst, 1958; Thorndike & Hagen, 1962; Backstrom & Hursch, 1963). It is

important for extension to evaluate their programs, which includes the Texas 4-H Equine Ambassador Short Course.

### **Levels of Expertise**

Students, who complete an equine exhibiting experience, navigate through their career at differing levels of expertise. Dreyfus and Dreyfus (1985) suggested an individual progresses through different stages of novice-to-expert model (See Figure 1).



*Figure 1.* Dreyfus Model of Skill Acquisition (Dreyfus & Dreyfus, 1985)

The model includes six transitional stages of the development of a professional. The stages include: novice, advanced beginner, competent, proficient, and expert. Dreyfus asserted that the novice professional has little experience to draw from and rely

heavily on predetermined rules. Daley (1999) states that novice professionals “have little experience with real situations; they must rely on the rules they have learned in their peremptory education to function” (p. 134). The rule-oriented behavior allows the new professional the ability to work within a set of guidelines. The professionals with time gain understanding of organizational processes and become savvy regarding their work. At the completion of the progression, the professional “has an intuitive grasp of the situation and zeros in on the accurate region of the problem without wasteful consideration of a large range of unfruitful possible situations” (Benner, 1982, p. 406).

Dreyfus and Dreyfus (1985) further explained that in order to move from novice-to-expert there would be three observed changes in performance. First the professionals move from reliance of abstract principles to then relying on concrete past experiences. Second, the professional moves from viewing situations as being composed unrelated parts to then seeing the comprehensive understanding of how the parts contribute to the whole. Third, the professionals move from watching things happen to making things happen as an informed performer. The previous body of literature outlines the avenues that equine exhibitors travel throughout their professional career exhibiting equine.

Figure 2 represents how a student gains expertise through involvement in the program.

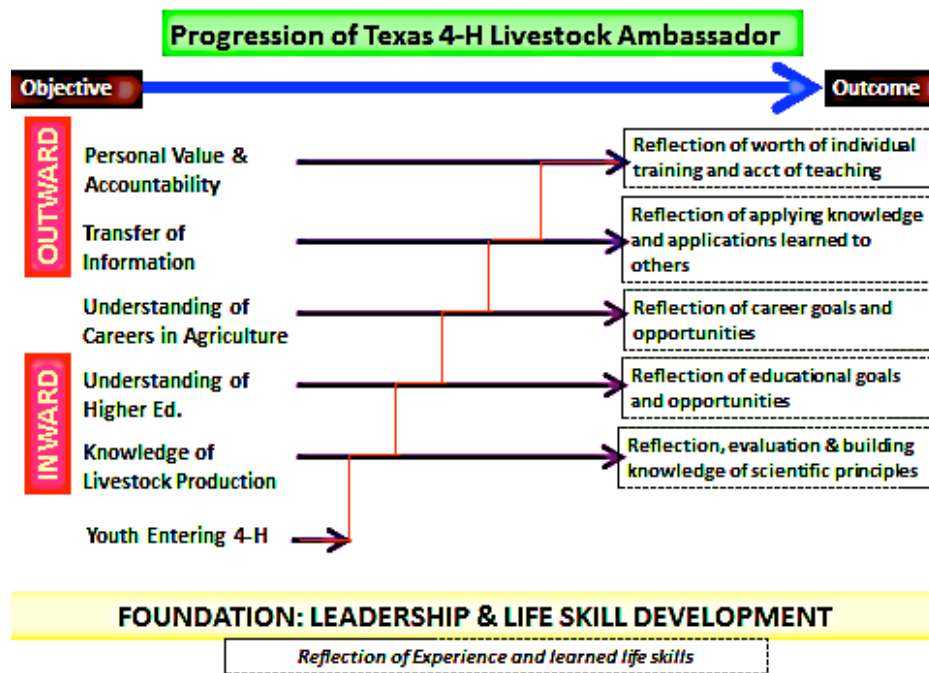


Figure 2. Progression Model of Texas 4-H Equine Ambassador

The National Research Council (2000) expanded on the concept of expertise in educational situations. The focus of the discussion was centered on how experts differ from novices with respect to learning and teaching. Experts have the ability to “notice features and meaningful patterns of information not recognized by novices which acquires a great deal of content knowledge that is organized in ways that reflect a deep understanding of their subject matter” (p. 31). The previous quote outlines contributing factors to the value of expertise in education. The National Research Council (2000) is in agreement with Dreyfus and Dreyfus (1985) concerning the efficiency of expertise. Experts are adept in accessing important information that is applicable to the situation presented in the educational environment. Professionals regardless of age or title benefit from quick and applicable exercise of their expertise (Dreyfus & Dreyfus,

<sup>1</sup>1985). Students in the Texas 4-H Equine Ambassador Short Course achieved varying levels of expertise depending on their level of involvement.

### **Theoretical Framework**

Studies in the field of experiential learning and cognitive development indicate: experience in a job, in voluntary service, in voluntary service, or by mean of some other opportunity to handle novel responsibility is important and perhaps essential to the transition to adulthood. This transition is marked by progress through successive stages of cognitive development, social role perspectives, and moral judgment. For most young people the experience needed for development cannot all be found in school; greater opportunities for experience with responsibility in school are needed (Texas 4-H Youth Development, 2015). The 4-H youth development program effectively contributes to broadly define human development goals. The variety of specific educational programming available provides young people with a broad spectrum of potential educational experiences supported by strong subject matter base. Experiential learning is included in all aspects of programming. Emphasis is placed on practical experience. Youth learn in a practical atmosphere from awareness to understanding. Involvement and leadership in a program are often some of the highest forms of learning. Through these experiences, young people have the opportunity to make personal discoveries, develop life skills, and learn about decision-making and problem solving processes. They are exposed to potential life-long recreational and vocational possibilities. The

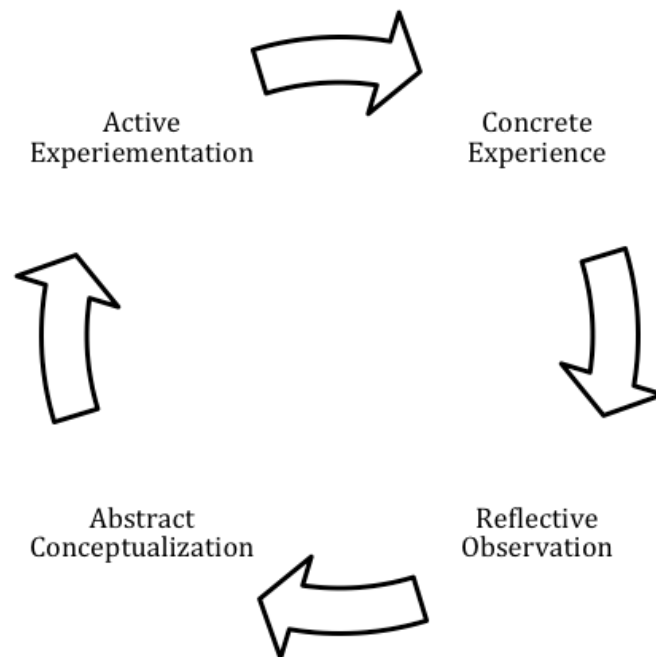
uniqueness of the 4-H program includes its interrelatedness to all facets of the local, county and state communities. The program is multi-aged, vocational and professionally diverse and reaches down from the Department of Agriculture through the land-grant universities and state extension services, to the county extension office, through volunteer to the youngsters and the private industry sector of the community. Conversely, ideas, practical knowledge and personal concern develop through the system to keep programs relevant. County extension and university faculty identify leaders and invited their participation. A best practice of the 4-H program is the support system for volunteers by the academic and professional organization. The result is a forum in which volunteers use their talents, knowledge and available time to benefit young people.

It is learning-by-doing that places the 4-H learning experience apart from much of the didactic teaching learning processes in contemporary American schools (Pittman, 2015). It is this public trust for expansion of educational achievement beyond the scope of the schools and of most American families that has stimulated legislation and public resources to extension 4-H. The “learning by doing” philosophy is one of the main reasons why 4-H is a success in the field of informal youth development (Zanolini, 2011). 4-H members and leaders have traditionally been encouraged to engage in their learning experiences, through hands on participation and active investment of their time (Wolffinden & Packham, 2001).

Kolb’s Experiential Learning Cycle (1984) was used as the main theoretical framework for this study, which was focused on equine content knowledge, career

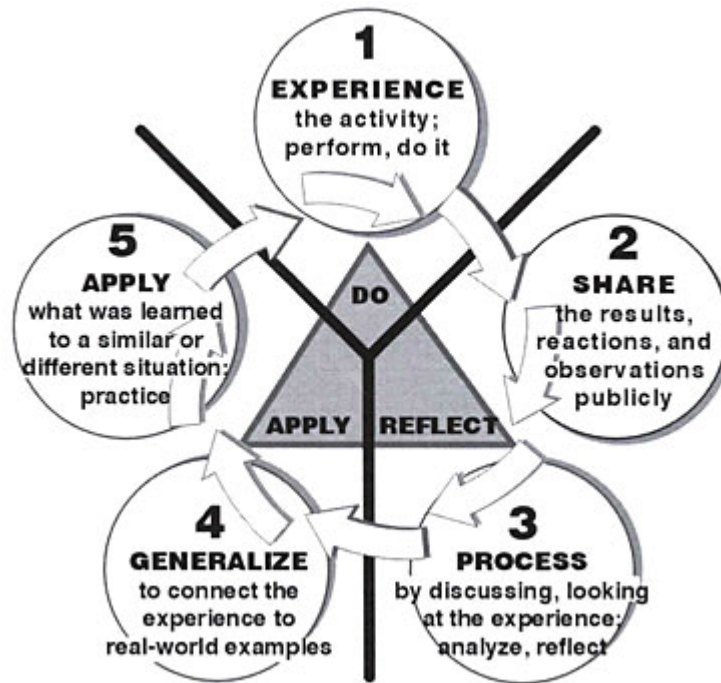


development and professional development through the Texas 4-H Equine Ambassador Short Course. Various terms have been used to label the process of learning from experience. John Dewey (1983) discussed “learning by doing,” while Wolfe and Bryne (1975) used the term “experienced-based learning.” The experiential learning cycle developed by Kolb (1984), provided one of the most useful descriptive models available of the adolescent learning process. This model has four stages in a learning cycle: a) concrete experience, b) reflection on that experience, c) derivation of general rules describing the experience, or the application of known theories to it (abstract conceptualization), and d) construction of ways of modifying the next occurrence of the experience (active experimentation), leading in turn to the next concrete experience (See Figure 3).



*Figure 3.* Kolb's Experiential Learning Cycle (Kolb, 1984)

Diem (2001) developed an experiential learning model that was adapted to the 4-H program. The terminology is adjusted; however the fundamentals are based on Kolb's Experiential Learning Cycle (See Figure 4).



*Figure 4. The National 4-H Experiential Learning Model (Diem, 2001)*

Students who exhibit a livestock or equine project in the 4-H program experience all of the stages in the Kolb's learning cycle. The act of raising and acquiring responsibility of an animal's care serves as the concrete experience in Kolb's model. Secondly, at the conclusion of the livestock or equine project, the exhibitor completes a 4-H record book. The record book is a reflection and documented observations of expenses and profits the project incurred. These actions satisfy the stages in the model for the reflective observation. The act of completing the project and reflecting on the

<sup>2</sup>project experience creates the formation of concepts. The concepts obtained from the experiences can then be transferred to future projects. Often a previous learned experience will affect future decisions concerning the project. Therefore, the students who have gained valuable understanding of abstract conceptualization will then have the ability to apply concepts to new situations. The active testing or experimentation starts the cyclical learning process again. The objectives of equine content knowledge, career development and professional development will closely follow the work of Kolb (1984) and Diem (2001).

The students who attend the Texas 4-H Equine Ambassador Short Course experience this learning cycle. For example, the 4-H equine ambassadors will listen to an equine nutrition lecture from a specialist, then travel to a feed mill for hands on learning about feeds and feeding, they will then reflect on that experience and eventually apply it to their everyday life.

### *Career Awareness*

Career development, defined as making career decisions and career-related choices, is a longitudinal process over one's lifespan and refers to the preparation for, choice of, entry into, and adjustment to work in a specific field (Super, 1954, p. 14). It involves "helping youth understand who they are and finding out what careers in the world could fit into their self-images" (Porfeli & Lee, 2012, p. 17). Career interests have

begun to form as early as middle school years. Youth have begun making choices that will influence future decisions about education and careers (Jackson & Nutini, 2002). The career development goal with high school youth broadens their learning about potential career and educational interests, abilities, beliefs and options (Jackson & Nutini, 2002). The 4-H program has built a foundation on allowing youth the opportunities to explore multiple facets of specific careers in which they may be interested. The addition of career possibilities dates back to the 1960's when it was recognized that the 4-H program provided a wider opportunity for career exploration than normally possible within the home or school (Tyler, 1961). A study conducted by Rockwell, Stohler, and Rudman (1984) studied former 4-H members that had been out of the program for a minimum of 10 years and a maximum of 20 years. The study looked at how the 4-H program influenced the adults who selected a career post program. A mailed questionnaire was disseminated to all participants asking how they felt the 4-H experience contributed to their selection of an advanced education and/or a career. The results indicated that 52% suggested the 4-H program influenced their career selection, 44% suggested that the 4-H program provided them with an area of advanced study to pursue, and 40% influenced their occupation. "In the past, 4-H activities have provided opportunities for career selection and have been helpful as individuals assumed their adulthood roles" (Rockwell, Stohler, & Rudman, 1984, p. 4). This study suggests that the 4-H program does have a long-term impact on its former members. Taking into consideration that one of the three intended benefits of the Texas 4-H Equine Ambassador Short Course is to "increase career awareness," this study looked at how the

Texas 4-H Equine Ambassador Short Course goes above and beyond the 4-H in general to capitalize on career awareness for the equine ambassador participants.

### *Professional Development*

A review of the literature reveals a variety of terms and approaches to professional growth opportunities across disciplines. For example, human resource scholars and human resource textbooks call this effort "training," "workplace learning," "employee development," and "development" (DeCenzo & Robbins, 1996; Noe, Hollenbeck, Gerhart, & Wright, 2000). The business literature describes professional development as "growth and learning," "training," and "executive education" (Hesselbein, Goldsmith, & Beckhard, 1997). Adult educators used "training" for many years as an approach to professional development, but the term has fallen out of favor, and instead this work is referred to as "continuing professional education," "higher education training," and "transformative learning" (Cranton, 1996; Cranton, 2006; Donavant, 2009; Holst, 2009; Kasworm, Rose, & Ross-Gordon, 2010; Knowles, Holton & Swanson, 1998; Wilson & Hayes, 2000). Teacher education uses the terms "professional development" and "professional learning" for this work (Gallucci, VanLare, Yoon, & Boatright, 2010; Guskey, 2000; Roschelle et al., 2010; Sparks, 2002). Cooperative Extension scholars and practitioners use the term "professional development" for their approach to growth and development (Conklin, Hook, Kelbaugh, & Nieto, 2002; Seevers, Conklin, & Graham, 2007; Senyurekli, Dworkin, & Dickinson, 2006). Finally, youth development educators, including out-of-school-time program providers such as camps, refer to professional growth as "professional development" and

specific learning opportunities as "training" (Diem, 2009; Garst, 2012; Heck, Subramaniam, & Carlos, 2009; Stark, Vetter, Gebeke, Lardy, & Eighmy, 2012). A study conducted by Garst, Baughman, and Franz (2014), examined the current state of professional development practices of youth-serving organizations and offers recommendations for improving Extension professional development practices. Garst, Baughman, and Franz (2014) use the term "professional development" when referring to educational opportunities meant to enhance the competences of youth program providers.

Rusk, Sumerlot-Early, Machtmes, Talbert and Balschweid (2003) found that concepts learned throughout the livestock project translated into improved performance in the classroom. Further, many of the successes of young people in 4-H are well documented in organized clubs or groups who have increased contact with a positive role model (Klienfeld & Shrinkwin, 1983). In Texas A&M AgriLife Extension, with respect to livestock projects, "Livestock Mentors" are adult volunteers charged with the responsibility of taking research-based information and disseminating it to the people in the community. Teen leaders could very well be equally as important as livestock mentors. It is important to influence the lives of youth during the Texas 4-H Equine Ambassador Short Course through the use of positive role models, to improve leadership skills in each participant. The 4-H program strives to utilize every opportunity possible to train and build good leaders with the program, whether is by allowing participants to serve as club or community officers, or serving as a volunteer coordinator and leading a

specific group of individuals (Isbell, 2013). Another targeted area of benefit for the Texas 4-H Equine Ambassador Short Course is “increased professional development.”

#### *Texas 4-H Livestock Ambassador Program*

Much of this study aligned with the foundations of the Texas 4-H Livestock Ambassador Program, which are career development, higher education, and leadership development. Zanolini (2011) suggest the Texas 4-H Livestock Ambassador Program participants meet people who will help them in their career. They were also energized to consider a career in animal agriculture and to use their experience as a 4-H Livestock Ambassador to pursue future careers. These findings substantiate the work of Matulis, Hedges, Barrick, and Smith (1988), and Boleman, Merten, and Hall (2008) who found that 4-H contributed to career awareness and influenced career goals.

#### *Summary*

The review of literature focused on the theoretical framework of this study, which includes the work of Kolb’s Experiential Learning Cycle (1984) and The National 4-H Experiential Learning Model (Diem, 2001). Both experiential learning models state that the equine ambassador participant’s experience a learning cycle. The levels of expertise described by Dreyfus and Dreyfus (1985), as an individual progresses through different stages of novice-to-expert. This example was demonstrated through the Texas 4-H Ambassador progression model. The importance of career awareness and teen leadership was stressed. Lastly, the purpose of the Texas 4-H Equine Ambassador Short Course and schedule of the five day, advanced course curriculum overview was provided to understand the context of the study (Appendix E).

## CHAPTER III

### METHODOLOGY

#### **Type of Research**

Evaluations are intended to improve the object being evaluated; they help to form or strengthen it by examining the delivery of the program or technology and the quality of its implementation (Fraenkel, Wallen, & Hyun, 2012). In this case the object is described as the Texas 4-H Equine Ambassador Short Course evaluating the equine production knowledge, career awareness and professional development of the equine ambassador participants.

#### **Population**

Texas A&M Agrilife County 4-H & Youth Development Extension Agents used criterion-based selection to select the equine ambassador participants. The purposive selection criterion for the research participants were: (a) senior aged (14-18 years) 4-H youth that have exhibited a superior level of ambition regarding their equine projects, (b) students with a profound interest in equine science and animal production, and (c) students who have shown advanced leadership qualities and the willingness to help others. The selected equine ambassador participants served as the census population for the study.

#### **Instrumentation and Data Collection**

The study utilized a three-part questionnaire to determine equine content knowledge, career awareness, and professional development through the Texas 4-H Equine Ambassador Short Course. Quantitative methodology was used to collect pretest



and posttest self-assessment questionnaire data. The first section of the pretest and posttest self-assessment questionnaire included an evaluation of the equine ambassador participant's level of equine expertise. The self-assessment utilized a seven point Likert-scale. The Likert-scale responses ranged from 1-7: 1 = *Novice*- Limited understanding of equine knowledge (nutrition, health, reproduction and no showmanship knowledge), 4 = *Intermediate*- Basic understanding of equine knowledge (nutrition, health, reproduction and some showmanship knowledge), 7 = *Expert*- Advanced understanding of college level equine science principles. The second section of the self-assessment questionnaire evaluated the equine ambassador participants perceived career awareness. The third section of the self-assessment questionnaire evaluated the equine ambassador participants perceived professional development. The second and third section utilized a five point Likert-scale with a scale from 1-5: 1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Neither Agree nor Disagree*, 4 = *Agree*, and 5 = *Strongly Agree*. Following the three sections on the pretest and posttest self-assessment questionnaire was demographics. Demographic questions were: (a) gender, (b) years involved in equine projects, (c) leadership positions held, (d) age, and (e) plans after high school.

According to Borg, Gall, and Gall (2006), domain-referenced tests measure the learner's absolute level of performance in a precisely defined content area or "domains". They have been used to measure achievement-related performance. The study implemented the use of a domain-referenced exam. The domain-referenced exam was administered to the equine ambassador participants before and after the program. The domain-referenced content knowledge exam evaluated the equine knowledge gained

from participation in the Texas 4-H Equine Ambassador Short Course. The exam included thirty multiple choice and true/false questions. To ensure content validity, the study utilized the equine content knowledge exam designed by the Texas 4-H Equine Ambassador professionals from previous Texas 4-H Equine Ambassador Short Courses.

### **Comparison Group**

Fraenkel, Wallen, and Hyun (2012) state an experiment usually involves two groups of subjects, an experimental group and a control or a comparison group, although it is possible to conduct an experiment with only one group or with three or more groups. The experimental group receives a treatment, while the comparison group receives no treatment or a different treatment. This study utilized a comparison group that was selected with the following criteria; the student must be a state Texas 4-H Horse Show contestant with similar equine knowledge and experiences as those chosen for the Texas 4-H Equine Ambassador Short Course. The comparison group was administered only the pretest self-assessment which included the level of equine expertise, career awareness, and professional development sections. The results of the equine ambassador participants pretest self-assessment instrument were correlated to the comparison group pretest self-assessment instrument to show equivalency of the equine ambassador participant census population. Equivalency of the study was also utilized by comparing the demographics of both groups.

The program treatment was the 5-day Texas 4-H Equine Ambassador Short Course. The 5-day program was an intensive 8-12 hour per day college level equine science course. The youth received instruction from Texas A&M Agrilife Extension

Agents, specialists, Texas A&M University Professors, lawyers, horse breeders, Texas Farm Bureau directors, veterinarians, and marketing directors.

### **Data Analysis**

Quantitative data was analyzed using the Statistical Package for Social Science (SPSS 22.0). Descriptive and inferential statistical techniques were also used.

Confidence intervals and tests for statistical significance were set *a priori* at the .05 level. Descriptive statistics were used to describe demographic characteristics of the equine ambassador and comparison group participants to show sample equivalency. The study also used descriptive statistics to describe frequency, measures of central tendency, percentages and variability. Correlations were utilized to examine the changes and perceptions of the Texas 4-H Ambassador and comparison group participants. The comparison group consisted of a group of Texas 4-H Equine Ambassador non-participants, youth who participated in the state Texas 4-H State Horse Show that have similar knowledge and experience as those who participate in the Texas 4-H Equine Ambassador Short Course.

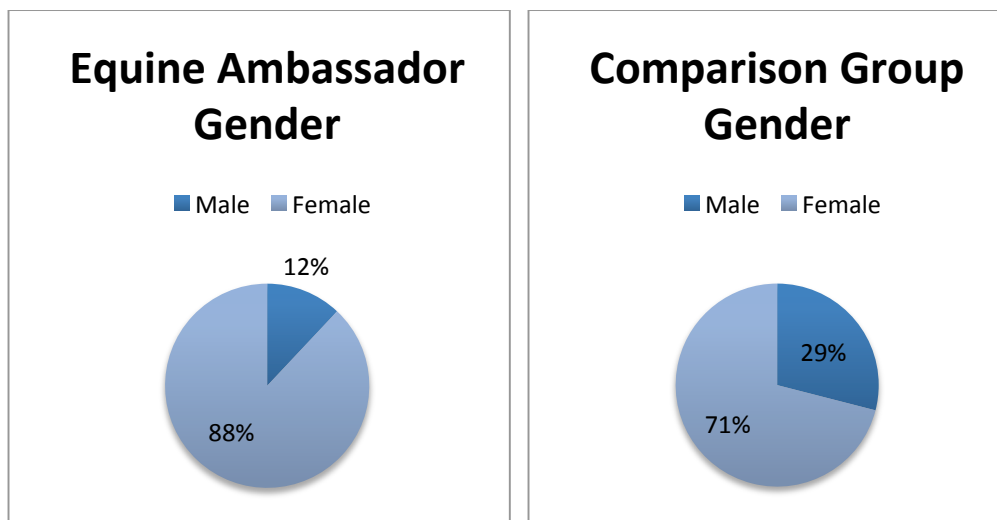
## CHAPTER IV

### FINDINGS AND DISCUSSION

#### **Demographics**

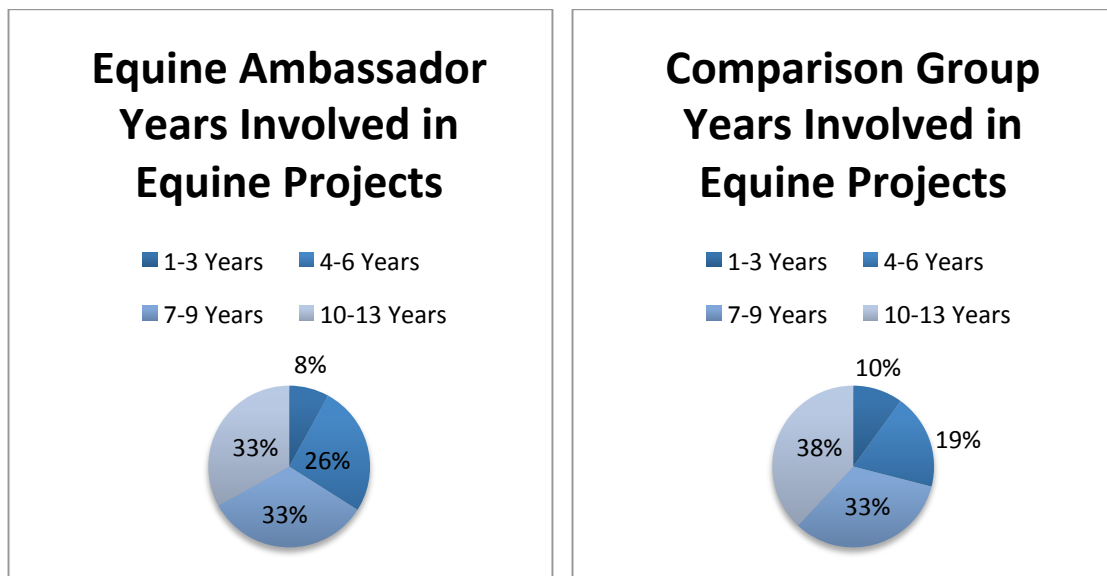
A total of twenty-four students participated in the Texas 4-H Equine Ambassador Short Course. The comparison group consisted of fifty-two Texas 4-H State Horse Show participants who share similar education and experiences of the equine ambassador participants. The Texas 4-H Equine Ambassador and control group participants both completed the self-assessment portion of the study, which included a section describing the participant's demographics. The demographic questions included: (a) gender, (b) number of years involved in equine projects, (c) highest level of leadership involvement, (d) age, and (e) plans after high school.

Twenty-four equine ambassador participants consisted of 88% ( $n = 21$ ) female and 12% ( $n = 3$ ) male students. Fifty-two comparison group participants consisted of 71% ( $n = 37$ ) female and 29% ( $n = 8$ ) male students. The gender results from the demographics section are reported (See figure 5).



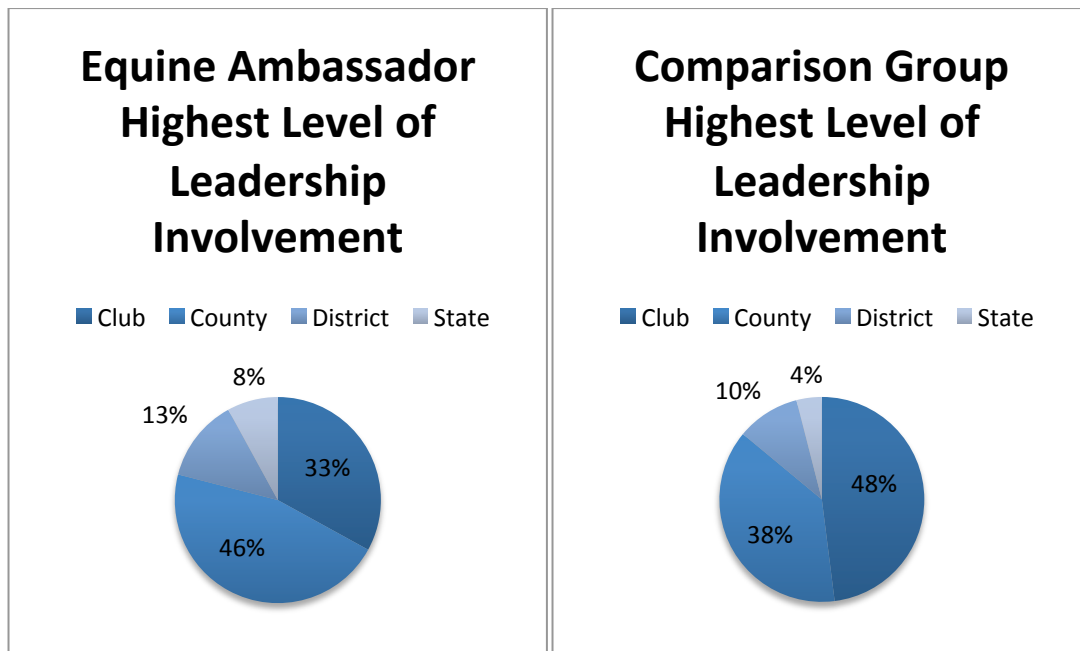
*Figure 5.* Participant Demographics: Gender  
Texas 4-H Equine Ambassador (N=24) and Comparison Group (N=52)

Twenty-four equine ambassador participants reported the number of years involved in equine projects. The results are as follows: 1-3 years 8% ( $n = 2$ ), 4-6 years 26% ( $n = 6$ ), 7-9 years 33% ( $n = 8$ ), and 10-13 years 33% ( $n = 8$ ). Fifty-two comparison group participants reported the number of years involved in equine projects. The results are as follows: 1-3 years 10% ( $n = 5$ ), 4-6 years 19% ( $n = 10$ ), 7-9 years 33% ( $n = 17$ ), and 10-13 years 38% ( $n = 20$ ). The year's involvement in equine projects for both groups reported (See figure 6).



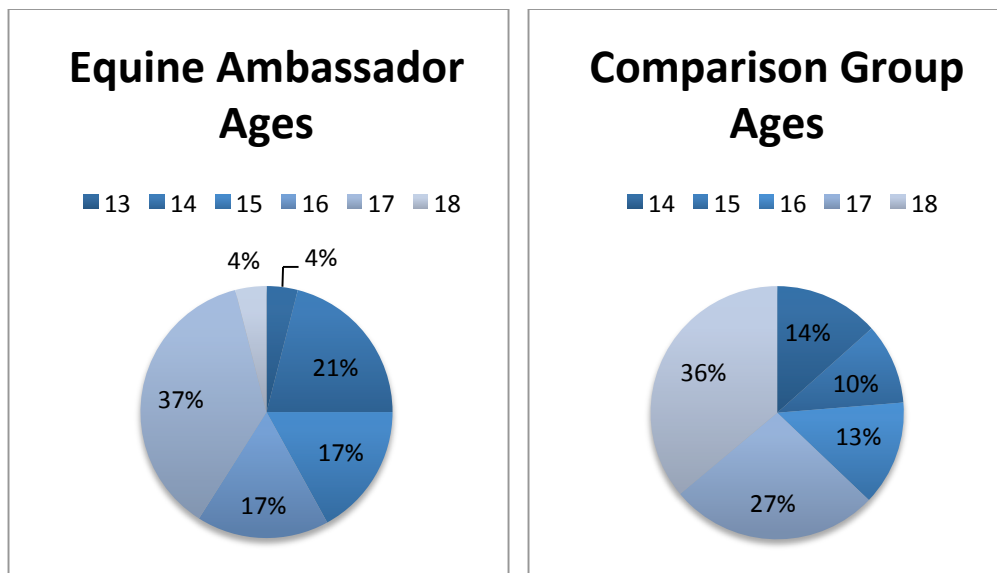
*Figure 6.* Participants Demographics: Years Involved in Equine Projects  
Texas 4-H Equine Ambassador (N=24) and Comparison Group (N=52)

Twenty-four equine ambassador participants reported the highest level of leadership involvement on the self-assessment. The levels of involvement included: (a) club, (b) county, (c) district, and (d) state. The equine ambassador participant results are as follows: club 33% ( $n = 8$ ), county 46% ( $n = 11$ ), district 13% ( $n = 3$ ), and state 8% ( $n = 2$ ). Fifty-two comparison group participants reported the highest level of leadership involvement. The comparison group results are as follows: club 48% ( $n = 25$ ), county 38% ( $n = 20$ ), district 10% ( $n = 5$ ), and state 4% ( $n = 2$ ). The highest levels of leadership involvement for both groups are reported (See figure 7).



*Figure 7.* Participant Demographics: Leadership Position  
Texas 4-H Equine Ambassador (N=24) and Comparison Group (N=52)

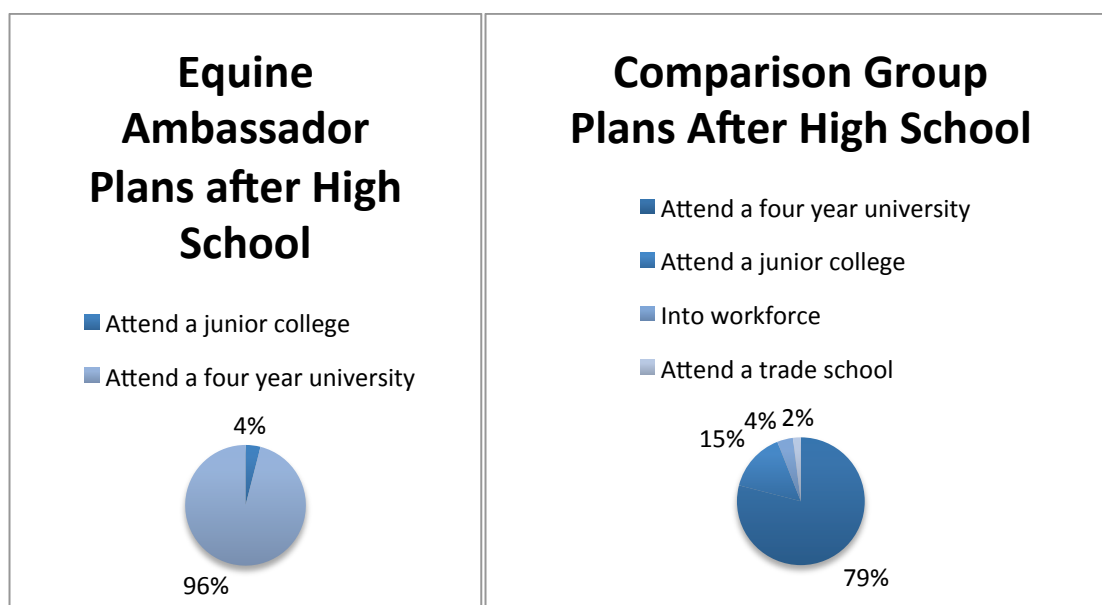
Twenty-four equine ambassador participants reported their age at the time the self-assessment was administered. The students had the option to select the following: (a) fourteen, (b) fifteen, (c) sixteen, (d) seventeen, and (e) eighteen. The results for the equine ambassador participants are as follows: fourteen 4% ( $n = 1$ ), fifteen 17% ( $n = 4$ ), sixteen 17% ( $n = 4$ ), seventeen 37% ( $n = 9$ ), and eighteen 4% ( $n = 1$ ). Fifty-two comparison group participants reported their age at the time the self-assessment was administered. The results for the comparison group participants are as follows: fourteen 13% ( $n = 7$ ), fifteen 10% ( $n = 5$ ), sixteen 13% ( $n = 7$ ), seventeen 25% ( $n = 13$ ), eighteen 35% ( $n = 18$ ), and nineteen 4% ( $n = 2$ ). The reported participant ages for both groups are reported (See figure 8).



*Figure 8.* Participant Demographics: Age  
Texas 4-H Equine Ambassador (N=24) and Comparison Group (N=52)



Twenty-four equine ambassador participants reported their plans after high school at the time the self-assessment was administered. The students had the option to select the following: (a) enter the workforce, (b) attend a trade school, (c) attend a junior college, or (d) attend a four-year university. The results for the equine ambassador participants are as follows: attend a junior college 4% ( $n = 1$ ) and attend a four-year university 96% ( $n = 23$ ). Fifty-two comparison group participants reported their plans after high school at the time the self-assessment was administered. The results for the comparison group participants are as follows: enter the workforce 4% ( $n = 2$ ), attend a trade school 2% ( $n = 1$ ), attend a junior college 15% ( $n = 8$ ), and attend a four-year university 79% ( $n = 41$ ). The reported participant plans after high school for both groups are reported (See figure 9).



*Figure 9.* Participant Demographics: Plans After High School  
Texas 4-H Equine Ambassador (N=24) and Comparison Group (N=52)

A total of twenty-four Texas 4-H equine ambassador participants completed the pretest and posttest self-assessment. The Texas 4-H equine ambassador participants were administered the self-assessment before and after the completion of Texas 4-H Equine Ambassador Short Course. One of the most popular reliability statistics in use today is Cronbach's alpha (Cronbach, 1951). Cronbach's alpha determines the internal consistency or average correlation of items in a survey instrument to gauge its reliability (Santos, 1999). This portion of the instrument focused on assessing the participant's perceptions of career awareness and the instrument was found to have a relatively high acceptable reliability (17 items;  $\alpha = .768$ ). The higher the alpha level of the instrument, the more consistent the instrument is. All evaluation statements showed a significant difference from pretest and posttest, according to a significance level set *a priori* ( $p < .05$ ). The overall grand means resulted in (Pre-Grand Mean= 4.15, Post-Grand Mean = 4.73). Table 11 shows each statement that focused on addressing the equine ambassador participant's perceptions of career awareness before and after the Texas 4-H Equine Ambassador Short Course. Table 1 also demonstrates an increase in career awareness knowledge by the Texas 4-H Equine Ambassador participants shown by the grand means.

Table 1

*Texas 4-H Equine Ambassador (N=24) Perceptions of Career Awareness*

Statement	Pre- Mean	Post- Mean	SD	p	t
I will met people that will help my career	3.91	4.87	.858	.000	5.46
Even if I don't choose a career in animal agriculture, I plan to use skills gained from this program	4.33	4.75	.717	.009	2.84
I think that my experiences in the program will benefit me in agriculture or any other career	4.45	4.83	.710	.017	2.58
Before the program I feel I am energized to consider a career in animal agriculture	4.29	4.79	.978	.020	2.50
I hope to use the experiences from the Texas 4-H Equine Ambassador Short Course in pursuing my career	4.25	4.83	.928	.005	3.07
When I apply for a job, I think it is important to explain my role as a Texas 4-H Equine Ambassador in hopes it would show the leadership qualities I hope to experience from the program	4.29	4.83	.779	.002	3.40
My participation in this program will reveal to employers my leadership	4.12	4.87	.794	.000	4.62
I currently have a competitive resume	3.87	4.45	.775	.001	3.68
I am currently aware of career opportunities in animal agriculture	4.04	4.70	.564	.000	5.78
I think the experience as a Texas 4-H Equine Ambassador will develop me into more of a professional in animal agriculture	4.20	4.79	1.01	.010	2.80
I think 4-H generates more advocates for animal agriculture as they enter the workforce	4.29	4.91	.646	.000	4.73
I have considered what career I wanted to pursue after college before participating in Texas 4-H Equine Ambassador	4.12	4.41	.858	.110	1.66

Table 1 continued

*Texas 4-H Equine Ambassador (N=24) Perceptions of Career Awareness*

Statement	Pre- Mean	Post- Mean	SD	<i>p</i>	<i>t</i>
I currently have a clear understanding of what my career goals are	3.75	4.04	.806	.000	1.77
I have been exposed to aspects of animal agriculture in the Texas 4-H Programs	4.16	4.83	.963	.003	3.39
I am aware of the diverse career opportunities in equine agriculture	4.04	4.87	.701	.000	5.81
I hope to meet faculty members that will assist me in my career	4.12	4.70	.775	.001	3.68
I think 4-H produces qualified future leaders in Agriculture	4.37	4.95	.653	.000	4.37
Equine Ambassadors (N=24)					
	Pre- Grand Mean	Post- Grand Mean	SD	<i>p</i>	<i>t</i>
Grand Means	4.15	4.73	.411	.000	6.51

*Note.* Responses: 1=Strongly Disagree 2=Disagree 3= Neither Agree or Disagree 4=Agree 5=Strongly Agree

A total of twenty-four Texas 4-H Equine Ambassador participants completed the professional development self-assessment instrument. The self-assessment instrument was administered to the Texas 4-H Equine Ambassador participants before and after the Texas 4-H Equine Ambassador Short Course. This portion of the instrument focused on assessing the student's perceptions of their overall professional development. The statements were focused on assessing the student's perceptions of professional development and the instrument was found to have a relatively high reliability (29 items;  $\alpha = .778$ ). All of the statements showed a significant difference set at ( $p < .05$ ) *a priori*. Table 2 shows the statements that were used to evaluate the equine ambassador participants, along with the grand means.

Table 2

*Texas 4-H Equine Ambassador (N=24) Perceptions of Professional Development*

Statement	Pre- Mean	Post- Mean	SD	<i>p</i>	<i>t</i>
I use leadership skills gained in 4-H programs	4.37	4.91	.658	.001	4.03
4-H trusts me to be a leader and mentor to novice youth with equine projects	4.41	4.79	.646	.009	2.84
The youth voice is a powerful tool for advocating and promoting animal agriculture	4.58	5.00	.503	.000	4.05
I am an advocate for animal agriculture	4.33	4.87	.779	.002	3.40
Leaders like me will assure that Texas junior horse shows continue for years to come	4.12	4.87	.737	.000	4.98
I feel that I am qualified to help other youth with equine projects	4.20	4.95	.794	.000	4.62
This is the most valuable leadership role that I have ever had in the 4-H program	4.12	4.83	.907	.001	3.82
Ambassadors will be future leaders in state and national animal agriculture	4.00	4.75	.675	.000	5.43
Teen leaders are valuable in training and supporting novice 4-H families	4.20	4.87	.701	.000	4.65
The Texas 4-H program will grow the 4-H equine project with the leadership and help of the T4HEA	4.08	4.91	.564	.000	7.23
With this leadership role I feel like I can make a real difference	4.20	4.83	.710	.000	4.30
I am a valuable educator for the Texas 4-H program	3.79	4.79	.780	.000	6.27

Table 2 continued

*Texas 4-H Equine Ambassador (N=24) Perceptions of Professional Development*

Statement	Pre- Mean	Post- Mean	SD	<i>p</i>	<i>t</i>
I have had more opportunities to be a leader than ever before	3.91	4.75	.761	.000	5.36
I can lead discussions and lessons on complex topics	3.58	4.66	.653	.000	8.11
4-H values my service as a leader	3.87	4.66	.658	.000	5.89
I have more skills to assist novice youth with their projects than other teens that are not in the program	3.95	4.91	.750	.000	6.25
In some cases teen leaders have better skills to teach novice youth adults	3.91	4.87	.858	.000	5.46
Texas A&M AgriLife Extension Service needs me to assist in the support of novice 4-H families	3.62	4.62	.659	.000	7.43
I feel that my opinion is valued by others	3.66	4.58	.717	.000	6.26
I realize that without the help of teen leaders, novice families are more likely to leave our program	3.95	4.62	.701	.000	4.65
The 4-H program and people in the equine project see me as a professional	3.41	4.54	.850	.000	6.48
I think the 4-H program should be using more of us to teach and mentor novice families	4.08	4.83	.846	.000	4.33
Statement	Pre- Mean	Post- Mean	SD	<i>p</i>	<i>t</i>
The program makes me feel like a professional	3.83	4.79	1.08	.000	4.33
I expect that the curriculum in the short course will be the most difficult of any 4-H program that I have attended in my career	4.04	4.66	1.05	.008	2.90
Texas A&M AgriLife Extension Service should leave the discussions with elected officials about animal agriculture to the adults*	2.58	2.62	1.80	.911	.113
Teen leaders are good at teaching showmanship, but should leave the feeding, health, and selection to the adults*	1.87	2.37	1.06	.031	2.30

Table 2 continued

*Texas 4-H Equine Ambassador (N=24) Perceptions of Professional Development*

Statement	Pre- Mean	Post- Mean	SD	<i>p</i>	<i>t</i>
Teens are not qualified to teach novice youth*	1.25	1.37	.679	.377	.901
I do not feel that the novice 4-H youth look up to me*	1.58	1.45	.740	.417	-.827
I am a good leader	3.87	4.62	.607	.000	6.04
	Pre- Mean	Post- Mean	SD	<i>p</i>	<i>t</i>
Grand Means	4.00	4.78	.342	.000	11.08

*Note.* Responses: 1=Strongly Disagree 2=Disagree 3= Neither Agree or Disagree 4=Agree 5=Strongly Agree. Reversely coded items excluded from grand means.

Table 3 shows the results of the pretest and posttest self-assessment level of equine expertise section administered to the Texas 4-H Equine Ambassador participants. To reinforce the change in equine knowledge research objective, a written content knowledge exam was given has a pretest and posttest the Texas 4-H Equine Ambassador participants. The content knowledge exam consisted of questions made up by Texas A&M AgriLife Extension professionals, which were previously utilized during past Texas 4-H Equine Ambassador Short Course. An increase in equine content knowledge following completion of the Texas 4-H Equine Ambassador Short Course is shown in table 5 below. Table 3 reflects the pretest and posttest means, standard deviations, significance value, and *t* test values resulting from the exam scores.

Table 3

*Texas 4-H Equine Ambassador (N=24) Perceptions of Equine Expertise and Equine Content Knowledge*

	Pre- Grand Mean	Post- Grand Mean	SD	<i>p</i>	<i>t</i>
Level of Equine Expertise	4.54	6.04	.834	.000	-8.81
Content Knowledge Exam	61.75	86.46	10.92	.000	-11.08

*Note.* 1 = Novice – Limited understanding of breed differences, nutrition, health, reproduction and no showmanship knowledge. 4 = Intermediate- Basic understanding of breed differences, nutrition, health, reproduction and some showmanship knowledge. 7 = Expert- Advanced understanding of college level animal science principles: cross breeding systems, specie specific nutrition, diseases and vaccinations, reproductive cycles and gestation and could teach others to show specie with ease. Content knowledge exam percentage out of 100.

As previously stated a total of twenty-four Texas 4-H Equine Ambassador participants completed the pretest self-assessment career awareness section administered before the Texas 4-H Equine Ambassador Short Course. The comparison group consisted of fifty-two Texas 4-H State Horse Show participants; with similar interest to the equine ambassador participants completed the same pretest self-assessment career awareness section. The comparison group was administered the pretest self-assessment at the Texas 4-H State Horse Show. Table 4 shows the grand means, standard deviations, significance, correlations, and *t* test value results comparing the two groups to show equivalency to the study.



Table 4

*Texas 4-H Equine Ambassador (N=24) and Comparison Group (N=52) Perceptions of Career Awareness and Professional Development (PD)*

	Pretest Grand Mean	SD	<i>p</i>	<i>t</i>	<i>r</i>
Equine Ambassador- Career	4.15				
Comparison Group- Career	4.41	.051	.001	-3.43	.993
Equine Ambassador- PD	4.00				
Comparison Group- PD	3.82	.104	.000	19.86	.966

*Note.* Grand mean are measured on a score totally five

### Summary

Chapter IV focused on describing the demographics of the equine ambassador participants as well as the control group participants. It also described the results of the three constructs of this study, which include equine content knowledge, career awareness and professional development.

## CHAPTER V

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

In this final chapter, a summary of the findings and how they relate to previous research is provided for each research question. The purpose of this research is provided, followed by a summary of the findings and conclusions for each research question. Implications for Texas A&M AgriLife Extension Service as well as Texas 4-H & Youth Development are provided. Recommendations for future research and practitioners are also included in this chapter.

The purpose of this study was to examine the perceived impact of equine production knowledge, career awareness, and professional development on the equine ambassador participants following completion of the Texas 4-H Equine Ambassador Short Course. The study measured the change of the short course on the participants as it related to: (a) gained understanding of the student's perceived progression of knowledge as a result of the Texas 4-H Equine Ambassador Short Course, (b) gained understanding of the student's perceived level of equine expertise as a result of the Texas 4-H Equine Ambassador Short Course, (c) understanding of the equine content knowledge exam results and how they compare to the perceptions of equine knowledge after participating in the Texas 4-H Equine Ambassador Short Course, (d) determining if the program enhanced understanding of careers awareness, (e) evaluating if the Texas 4-H Equine Ambassador Short Course increased the students' understanding of professional development, and (f) examining how the Texas 4-H Equine Ambassador participants compare with the State 4-H Horse Show comparison group in regards to the career

awareness and professional development constructs (pretest only). Demographic information was also collected from participants to determine if there were any trends among the participants in both groups. Responses to the research instruments served as the basis for many of the recommendations provided by this study.

### **Summary of Findings**

#### *Research Question 1*

Describe the demographics of the Texas 4-H Equine Ambassador Short Course participants and a comparison group to determine whether baseline characteristics are similar prior to participating in the educational program. This comparison strengthens the argument that changes in pretest and posttest scores are not the result of having a more “advanced” participant group compared with a similar program.

The majority (88%) of the equine ambassador participants and the majority (71%) of the comparison group participants were female. These results are similar to the findings of Lambarth (2011), which stated that the state of Texas has one of the highest numbers of females enrolled in the 4-H horse project in the nation (Lambarth, 2011). Approximately 89% of the state's horse project members are female (USDA, 2003-2004). Therefore, it is concluded that the Texas 4-H horse programs gender of participants align with that of the state.

The majority (66%) of the equine ambassador participants and the majority (71%) of the comparison group have been involved in equine projects for at least seven years. The majority (46%) of the equine ambassador participants stated their highest level of involvement was at the county level. Whereas, the majority of the comparison

group participants (48%) reported their highest level of involvement was at the club level. The majority of both the equine ambassador participants and the comparison group participants reported to be at least 17 years of age. The majority of the equine ambassador participants and the comparison group participants reported to attend a four-year university after high school. Therefore, it was concluded that both groups were comparable within the demographic construct of this study, with the exception of club involvement.

### *Research Question 2*

What was the perceived change in the awareness of career opportunities of the Texas 4-H Equine Ambassador participants following completion of the Texas 4-H Equine Ambassador Short Course?

The findings of the study reported a gain in career awareness of the equine ambassador participants, following completion of the Texas 4-H Equine Ambassador Short Course (Pretest  $M=4.15$ , Posttest  $M=4.73$ ). A ( $p = .000$ ), which is less than the ( $p < .05$ ) set *a priori*, found that the difference between the pretest and posttest for career awareness was statistically significant. A *t*-test was calculated to determine if any significant differences existed based upon pretest and posttest data collected ( $t = 6.51$ ). The higher the *t* value, the lower the *p* value. Therefore, the study concluded that statistically significant differences did exist in career awareness among the equine ambassador participants based upon completion of the Texas 4-H Equine Ambassador Short Course.

These findings are similar to those of Kolb (1984) and Diem (2001) and the experiential learning cycle. The youth entering the short course had a lower grand mean than when exiting the short course. As previously stated in the review of literature, The National 4-H Experiential Learning Model (Diem, 2001) included a cycle that the equine ambassador participants experienced during the short course. Stage one is the experience, the activity, which is the actual career awareness activity during the short course. Students had the opportunity to spend significant time with university professors and staff, equine industry professionals, elected officials, Texas A&M AgriLife Extension Administrators and specialists; major livestock show directors and distinguished equine breeders (experience). The equine ambassador participants had many opportunities to discuss career opportunities with equine industry professionals. The second stage of the experiential learning cycle included sharing and reflecting upon the previous experience and stage three included the process by discussing, looking at the experience, analyzing and reflecting upon that experience. At the conclusion of the equine specialist's presentation, the equine ambassador participants were involved in a question and answer session with the specialist, in which gave them the opportunity to reflect upon the experience, discuss those questions and analyze the experience amongst their peers and the equine specialist (share and process). In general, upon completion of the Texas 4-H Equine Ambassador Short Course, the equine ambassador participants reflected on the influence of career awareness as a future animal advocate. Stage four of the National 4-H Experiential Learning Model (Diem, 2001) included generalizing, to connect the experience to real-world examples. The equine ambassador participants were

given real world examples from the equine specialists pertaining to how they can reach their career goals (generalize). Many of the equine ambassador participants discussed real world experiences throughout the progression of the short course, which demonstrated the act of generalizing in order to connect the experiences to real-world examples. Stage five of the experiential learning cycle, included applying what was learned to a similar or different situation or practice. The equine ambassador participants were asked to lead discussions during the short course to demonstrate what they learned about the career opportunities of that day. The ambassadors were able to apply the new knowledge they previously learned to a new situation. The equine ambassador participants were interested in careers in agriculture and the Texas 4-H Equine Ambassador Short Course offered the opportunity for them to have meaningful contact with leaders in the Texas equine industry, share the results, process by discussing and reflecting, generalize the experience to real-world examples and apply what was learned to a similar or different situation. In conclusion, the equine ambassador participants were influenced in the career awareness from the Texas 4-H Equine Ambassador Short Course. Therefore, the Experiential Learning Cycle was an effective design to change career awareness (Kolb, 1984; Diem, 2001).

These findings substantiate the work of Matulis, Hedges, Barrick, and Smith (1988) and Boleman, Merten, and Hall (2008), who found that 4-H, contributed to career awareness and influenced career goals. As previously stated, grand means were calculated for the pretest ( $M=4.15$ ) and posttest ( $M=4.73$ ), which resulted in a gain of career awareness amongst the equine ambassador participant. Therefore, the study

concluded that 4-H contributed to the career awareness of the equine ambassador participants through the Texas 4-H Equine Ambassador Short Course.

These findings also substantiate the work of Anderson, Bruce, and Mouton (2010), who found that 4-H college level alumni had a positive belief about how their 4-H program experiences had a direct impact on their career choice. Radhakrishna (2005), found that 4-H influenced them to finish high school, in their job or career selection, and whether to continue education beyond high school. The findings in this study resulted in a gain in the career awareness of the equine ambassador participants following completion of the Texas 4-H Equine Ambassador Short Course. Therefore, it was concluded that the Texas 4-H Equine Ambassador Short Course had a positive impact in career awareness on the equine ambassador participants.

The Texas 4-H Equine Ambassador Short Course focused on the careers in the equine industry, providing the equine ambassador participants with presentations and hands-on experiences from many equine specialists, veterinarians, and professionals focused on careers in the equine industry. Rockwell, Stohler, and Rudman (1984) found that the 4-H program influenced the career selection of 4-H alumni, a majority of the 4-H alumni suggested that the 4-H program provided them with an area of advanced study to pursue, and also influenced their occupation. Although this study focused on the equine ambassador participants of 2015 and not alumni, from the findings the study concluded that the Texas 4-H Equine Ambassador Short Course provided the equine ambassador participants an area of advanced study to pursue.

### *Research Question 3*

What was the perceived change in professional development of the Texas 4-H Equine Ambassador participants following completion of the Texas 4-H Equine Ambassador Short Course?

The findings of the study reported a gain in the professional development of the equine ambassador participants, following completion of the Texas 4-H Equine Ambassador Short Course (Pretest  $M=4.00$ , Posttest  $M=4.78$ ). A ( $p = .000$ ), which is less than the ( $p < .05$ ) set *a priori*, finds that the difference between the pretest and posttest for professional was statistically significant. A *t*-test was calculated to determine if any significant differences existed based upon pretest and posttest data collected ( $t = 11.08$ ). The higher the *t* value, the lower the *p* value. Therefore, the study concluded that statistically significant differences did exist in the professional development among the 4-H equine ambassador participants based upon completion of the Texas 4-H Equine Ambassador Short Course.

These findings are similar to those of Kolb (1984) and Diem (2001) and the experiential learning cycle. The youth entering the short course had a lower grand mean than when exiting the short course. In the review of literature, The National 4-H Experiential Learning Model (Diem, 2001) included a cycle that the equine ambassador participants experienced during the short course. Students had the opportunity to learn about the ambassadorship, importance of becoming an animal advocate, mentorship, leadership, team building, proper verbal and nonverbal communication, etiquette, and public speaking (experience). As previously stated in the schedule of activities



(Appendix D) the equine ambassador participants had many opportunities to meet and discuss professional development with professionals. The equine ambassador participants were involved in a question and answer session with the specialist which gave them the opportunity to reflect upon the experience, discuss those questions and analyze the experience amongst their peers and the agricultural specialist (share and process). In general, upon completion of the Texas 4-H Equine Ambassador Short Course, the equine ambassador participants reflected on the influence of professional development as a future animal advocate and mentor to novice 4-H youth. Stage four of the National 4-H Experiential Learning Model (Diem, 2001) included generalizing, to connect the experience to real-world examples. The Texas 4-H Equine Ambassador Short Course offered the professional development opportunity for the equine ambassador participants to have meaningful contact with leaders in the Texas equine industry, share the results, process by discussing and reflecting, generalizing to connect the experience to real-world examples and applying what was learned to a similar or different situation. Therefore, this study concluded that the equine ambassador participants were influenced in professional development from the Texas 4-H Equine Ambassador Short Course and changed perceptions of agricultural advocacy (Diem, 2001).

These findings substantiate the work of Garst, Baughman, and Franz (2014), who examined the current state of professional development practices of youth-serving organizations and offers recommendations for improving Extension professional development practices. Garst, Baughman, and Franz (2014) use the term "professional

development" when referring to educational opportunities meant to enhance the competences of youth program providers. As previously stated, grand means were calculated for the pretest ( $M=4.00$ ) and posttest ( $M=4.78$ ), which resulted in a gain of professional development of the equine ambassador participants, also shown in the statistically significant  $t$ - value of ( $p = .000$ ). Therefore, the study concluded the Texas 4-H Equine Ambassador Short Course enhanced the professional development of the equine ambassador participants. The findings also resulted in an evaluation of the Texas 4-H Equine Ambassador program to be utilized by extension professionals to enhance educational opportunities for 4-H youth through the use of the Texas 4-H Equine Ambassador Short Course.

Zanolini (2011) stated that, "we should use knowledge to help the kids have a better understanding [of livestock projects] so they can help us, help other kids." Through the professional development construct of this study, the Texas 4-H Equine Ambassador Short Course provided youth the education and experience for their voices to be heard. Advocacy and mentorship are two large components in the professional development construct of this study. The findings resulted in an increase in professional development knowledge with includes the two previously stated components.

The findings also substantiate the work of Anderson, Bruce, and Mouton (2010) who found that 4-H alumni credited 4-H to some success or accomplishment they had achieved, including their communication and public speaking skill development. The researchers also found that the alumni had a positive believe about the influence of 4-H on their professional and personal development. As stated in the review of literature,

professional development can be defined multiple ways. The Texas 4-H Equine Ambassador Short Course provided opportunities for the equine ambassador participants to experience proper communication skills as well as public speaking skills following many hands-on activities. As previously stated, grand means were calculated for the pretest ( $M=4.00$ ) and posttest ( $M=4.78$ ), which resulted in a gain of professional development of the equine ambassador participants, also shown in the statistically significant t- value of ( $p = .000$ ). Therefore, the study concluded the Texas 4-H Equine Ambassador Short Course enhanced the professional development of the equine ambassador participants.

The findings are also similar to the work of Micemoyer and Perkins (2001), who found that all 4-H curricula and projects, regardless of differences in content area, provide youth with experiences that foster the development of skills and encourage them to become contributing, caring members of their communities. Mentorship is embedded within the professional development construct of this study. One goal of the Texas 4-H Equine Ambassador Short Course is to create community mentors in the equine ambassador participants. As previously stated, the findings resulted in a gain of professional development of the equine ambassador participants. Therefore, the study concluded the Texas 4-H Equine Ambassador Short Course enhanced the professional development, which includes the mentorship of the equine ambassador participants.

#### *Research Question 4*

What was the perceived change in the level of equine expertise and equine content knowledge of the Texas 4-H Equine Ambassador participants following completion of the Texas 4-H Equine Ambassador Short Course?

The findings of the study report a gain in level of equine expertise of the equine ambassador participants, following completion of the Texas 4-H Equine Ambassador Short Course (Pretest  $M=4.54$ , Posttest  $M=6.04$ ). A ( $p = .000$ ), which is less than the ( $p < .05$ ) set *a priori*, finds that the difference between the pretest and posttest for the level of equine expertise was statistically significant. A *t*- test was calculated to determine if any significant differences existed based upon pretest and posttest data collected ( $t = 8.81$ ). The higher the *t* value, the lower the *p* value. Therefore, the study concluded that statistically significant differences did exist in the level of equine expertise among the 4-H equine ambassador participants based upon completion of the Texas 4-H Equine Ambassador Short Course. As previously stated in the review of literature, the Dreyfus and Dreyfus (1985) novice-to-expert- levels of expertise model were presented to the students in the following format: 1 = *Novice*- Limited understanding of equine knowledge (nutrition, health, reproduction and no showmanship knowledge), 4 = *Intermediate*- Basic understanding of equine knowledge (nutrition, health, reproduction and some showmanship knowledge), 7 = *Expert*- Advanced understanding of college level equine science principles: specie specific nutrition, diseases and vaccinations, reproductive cycles and gestation and could teach others to show specie with ease. Therefore, the study concluded that the equine ambassador participants began the Texas

4-H Equine Ambassador Short Course at an intermediate level (knowing basic equine principles) and existed the short course near the expert level (understanding college level equine principles).

The findings of the study reported a gain in equine production knowledge of the equine ambassador participants, following completion of the Texas 4-H Equine Ambassador Short Course (Pre-Grand Mean = 61.75, Post-Grand Mean = 86.46). A ( $p = .000$ ), which is less than the ( $p < .05$ ) set *a priori*, finds that the difference between the pretest and posttest for equine production knowledge was statistically significant. A *t*-test was calculated to determine if any significant differences existed based upon pretest and posttest data collected ( $t = 11.08$ ). Therefore, the study concluded that statistically significant differences did exist in equine production knowledge among the 4-H equine ambassador participants based upon completion of the Texas 4-H Equine Ambassador Short Course.

These findings are similar to those of Kolb (1984) and Diem (2001) and the experiential learning cycle. The youth entering the short course had a lower grand equine production exam score than when exiting the short course. The National 4-H Experiential Learning Model (Diem, 2001) included a cycle that the equine ambassador participants experienced during the short course. The extension professionals and university professors provided an opportunity for the equine ambassadors to demonstrate their new knowledge in an arena. The equine ambassadors were then prompted to explain the nutrition of the horse and discuss what they had previously learned with the novice youth. This activity allowed the ambassadors to apply the new knowledge they

previously learned to a new situation (apply). The Texas 4-H Equine Ambassador Short Course offered the equine ambassador participants meaningful contact with university professors and extension professionals, to share the results, process by discussing and reflecting, generalize to connect the experience to real-world examples, and apply what was learned to a similar or different situation. Therefore, this study concluded that the equine ambassador participants were influenced in equine production knowledge from the Texas 4-H Equine Ambassador Short Course and through the experiences of the short course the equine ambassador participants experienced The National 4-H Experiential Learning Cycle (Diem, 2001).

John Dewey (1983) discussed “learning by doing,” while Wolfe and Bryne (1975) used the term “experienced-based learning.” Kolb’s (1984) experiential learning cycle provided four stages of learning, which included concrete experience (nutrition activity) followed by reflection on that experience on a personal basis (how nutrition affects the equine ambassador participants horses). This may then be followed by the derivation of general rules describing the experience, or the application of known theories to it (abstract conceptualization), and hence to the construction of ways of modifying the next occurrence of the experience (active experimentation), leading in turn to the next concrete experience (utilizing nutrition of the horse to educate novice youth through hands-on demonstrations). Therefore, the work of Kolb and Diem’s experiential learning cycle was experienced by the equine ambassador participants through the Texas 4-H Equine Ambassador Short Course.

The findings are similar to the work of Anderson, Bruce, and Mouton (2010) who found that mastery includes the basic knowledge and skill acquisition that 4-H is known for through its projects and activities. Also involved in mastery is the recognition of self-development and the ability to take risks and chances (Anderson, Bruce, & Mouton, 2010). The level of equine expertise and content knowledge exam evaluated the basic knowledge of equine production knowledge. Throughout the Texas 4-H Equine Ambassador Short Course, the equine ambassador participants are given many opportunities to master the basic knowledge in equine production. Through the understand and hands-on demonstrations of the multiple concepts learned within the equine production industry, the equine ambassador participants are gaining experience and in turn developing themselves as equine ambassadors. The findings of this study resulted in a gain in both the level of equine expertise and equine production knowledge. Therefore, the study concluded the Texas 4-H Equine Ambassador Short Course enhanced the equine knowledge, which includes the self-development of the equine ambassador participants.

#### *Research Question 5*

Compare the Texas 4-H Equine Ambassador participant's career awareness and professional development constructs to the Texas State 4-H Horse Show participant's before the Texas 4-H Equine Ambassador Short Course to show a comparison in the two groups.

The findings of the career awareness construct means resulted that both groups reported a close comparison in career awareness (Equine Ambassador Pretest  $M = 4.15$ ,

Comparison Group Pretest  $M = 4.41$ ). Therefore the study concluded that the equine ambassador participants were near the same educational level, pertaining to career awareness as the comparison group before the equine ambassador participants began the Texas 4-H Equine Ambassador Short Course. A  $t$  value of  $-3.43$  ( $p = .001$ ) was calculated to determine if any significant differences existed based upon the pretest of both groups. Therefore, the study concluded that statistically significant differences did not exist in both groups pertaining to career awareness. The equine ambassador participants and comparison group Pearson product moment correlation ( $r = .993$ ) indicated a strong positive correlation between the two groups. The strong correlation ( $r = .993$ ) indicated as the equine ambassador pretest results increased, the comparison group pretest results increased as well. The findings indicated that the equine ambassador participants were near the same career awareness educational level as that of the comparison before beginning the Texas 4-H Equine Ambassador Short Course.

The findings of the professional development construct means resulted that both groups reported a close comparison in professional development (Equine Ambassador Pretest  $M = 4.00$ , Comparison Group Pretest  $M = 3.83$ ). Therefore, the study concluded that the equine ambassador participants were near the same educational level, pertaining to professional development, as the comparison group before the Texas 4-H Equine Ambassador Short Course. A  $t$  value of  $19.86$  ( $p = .000$ ) was calculated to determine if any significant differences existed based upon the pretest of both groups. The equine ambassador participants and comparison group Pearson product moment correlation ( $r = .966$ ) indicates a strong correlation between the two groups. The findings indicated a



comparison within the two groups pertaining to the professional development construct of the study. Therefore, the equine ambassador participants and the comparison group were near the same career awareness and professional development educational level before the equine ambassadors entered the short course. The comparison of the groups showed that the equine ambassador participants were not different in entering level of equine professional development, career awareness, and content knowledge, and were comparable to other 4-H youth in Texas.

### **Recommendations for Research**

The following is a list of potential research topics recommended for future studies:

1. Many professionals have indicated that 4-H equine projects require critical thinking skills. A critical thinking survey should be administered to the Texas 4-H Equine Ambassadors and compare to a control group within all constructs of this study, utilizing the pretest and posttest structure.
2. As previously stated in the review of literature, studies completed on 4-H alumni can contribute to our discipline. A study should be conducted to investigate the career choices of previous equine ambassador participants.
3. One stage in the experiential learning model utilized in this study was the stage of applying what was learned to a similar or different situation or practice. A longitudinal study should be conducted to investigate the advocacy of the equine ambassadors following the short course.
4. This study only used the comparison group for looking into the career awareness and professional development constructs. A study should be conducted with a

control group, given both pretest and posttest to compare Texas 4-H Equine Ambassador participants vs. nonparticipants.

5. With technology on the rise, especially for youth. A study should be conducted to investigate what and how Texas 4-H Equine Ambassadors use technology to help them become better animal advocates.
6. Advocacy had a strong presence in the data in this study, but it was not one of the three main constructs studies. A study should be conducted to future classes of the Texas 4-H Equine Ambassador Short Course to investigate equine agricultural advocacy.
7. This study demonstrated an increased level of equine expertise, equine content knowledge, career awareness, and professional development among the Texas 4-H Equine Ambassador participants. A study should be conducted to survey the parents or guardians of the Texas 4-H Equine Ambassador and compare the perceptions of the student to the parent results.
8. A study should be conducted to follow up with Texas 4-H Equine Ambassadors five years following graduation from high school. Participants should be evaluated on long-term career choices and professional development.
9. This study only utilized a self-assessment and knowledge exam to evaluate the three constructs. A study should be conducted that includes a qualitative focus with face-to-face interviews of the equine ambassador's perceptions of the short course.

10. Based on previous literature and the demographics of this study, which include the majority of participants reported as female. A study should be conducted to further investigate why this short course attracts mostly females and not males. A study should also be conducted to evaluate how the short course can target the male population.
11. This study utilized the Dreyfus and Dreyfus (1985) Model of Skill Acquisition to evaluate the level of equine expertise before and after the Texas 4-H Equine Ambassador Short Course. A study should be conducted to focus on the change in the level of equine expertise of the equine ambassador participants throughout the short course, not only before and after. Also it should be included which equine activities promoted more learning from the equine ambassador participants.

### **Recommendations for Practice**

1. This study should be replicated with a larger sample size to compare the results to that larger sample size in regards to one of the limitations of sample size from this study.
2. Since the Texas 4-H Equine Ambassador Short Course has only been located at one facility in Texas. A study should be conducted to evaluate the program in a different location and compare the results of that study to the results of this study.
3. As stated in the literature, the term professional development is hard to define. The extension professionals involved in the Texas 4-H Equine Ambassador Short Course should define exactly what professional development means to the

program and what the exact outcomes of that construct should be. A study should be conducted to evaluate the short course after professional development is properly defined, according to extension professionals.

4. Based on previous literature and the demographics of this study, which include the majority of participants reported as female. A study should be conducted to further investigate why this short course attracts mostly females and not males. A study should also be conducted to evaluate how the short course can target the male population.
5. Although participants in this study were previously involved in equine projects, information was not gathered on what specific equine projects the participants had experienced prior to the Texas 4-H Equine Ambassador Short Course. The selection committee may want to go one step further and ask the applicants for more details involving their equine experience. This may help guide the educational experiences offered in the short course and can help select participants for future research studies.

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APPENDIX A  
TEXAS 4-H EQUINE AMBASSADOR SHORT COURSE 2015  
APPLICATION

**Texas 4-H Equine Ambassador Application 2015**

**Questions:**

**Billy Zanolini**  
Assistant Professor and Extension Specialist  
Youth Livestock and Agriculture  
4180 State Hwy 6  
College Station, TX  
Email: wfzanolini@ag.tamu.edu

**Jessica Cowan**  
4-H Program Assistant  
Youth Livestock and Agriculture  
Email: jessica.cowan@ag.tamu.edu

The Texas 4-H Equine Ambassador program is open to all Texas 4-H members ages 14-18 with at least one full year of 4-H eligibility remaining. Selection will be based on your application and recommendation letter. Recommendation by an adviser is required with application. Ownership of a horse is NOT a requirement or a part of the selection criteria. For more details about dates, locations, etc., please visit <http://www.texasyouthlivestock.com/equine-ambassadors/>.

We are not requesting recommendation letters this year. Instead you will enter the information and email of the person giving the recommendation and they will be emailed a survey to fill out and be submitted to the Texas 4-H Equine Ambassador Committee. You are allowed up to two references, but one is required to be the supervising CEA.

**Final information:**

The deadline is May 1st and you will be notified the first part of June if you have been accepted into the Texas 4-H Equine Ambassador program. An application does not guarantee acceptance into the program. A panel of adult advisers will review and select approximately 25-30 individuals. When you are notified we will have more information regarding signing up etc.

The Camp is June 28-July 2.

Cost: \$250

**Personal Information**

Name	<input type="text"/>
Address	<input type="text"/>
Address 2	<input type="text"/>
City	<input type="text"/>

State	<input type="text"/>
Postal Code	<input type="text"/>
County	<input type="text"/>
Email Address	<input type="text"/>
Parent or Guardian Email	<input type="text"/>
Supervising County Extension Agent	<input type="text"/>
Fall 2015 Grade	<input type="text"/>
Years in 4-H	<input type="text"/>
Shirt Size	<input type="text"/>
Phone Number	<input type="text"/>
Birthday mm/dd/yyyy	<input type="text"/>
Click to write Form field 16	<input type="text"/>

Please Check one:

- ☐ Male
- ☐ Female

List colleges/universities you are interested in attending.

Years in horse project?

Check all events you have participated in.

- ☐ Horse Judging
- ☐ Hippology Contest
- ☐ Horse Quiz Bowl
- ☐ Horse Educational Presentation
- ☐ 4-H Horse Show (local)
- ☐ 4-H Horse Show (district)
- ☐ 4-H Horse Show (state)
- ☐ Other:

Of the events above which one event have you been the most active?

- ☐ Horse Judging

- ☐ Hippology Contest
- ☐ Horse Quiz Bowl
- ☐ Horse Educational Presentation
- ☐ 4-H Horse Show (local)
- ☐ 4-H Horse Show (district)
- ☐ 4-H Horse Show (state)
- ☐ Other:

Why do you want to be a Texas 4-H Equine Ambassador?

In what ways do you see yourself supporting 4-H members with their horse projects?

#### Agreement and Reference

I certify that I have at least one full year of membership remaining in Texas 4-H:

- ☐ Yes, more then one year of 4-H remaining.
- ☐ No. This is my last year. (not eligible for this program)

Please provide us with the contact information of the individual whom you have asked to send us a recommendation letter on your behalf.

Make sure that the email that you give us is correct because they will get an email with the link to the reference survey.

You are allowed up to two references, but one is required to be the supervising CEA.

Name

Role or title of reference (club manager, CEA, project leader, etc.)

Phone number

Email

Please provide us with the contact information of the individual whom you have asked to send us a recommendation letter on your behalf.

Make sure that the email that you give us is correct because they will get an email with the link to the reference survey.

You are allowed up to two references, but one is required to be the supervising CEA.

Name

Role or title of reference (club manager, CEA, project leader, etc.)

**Phone number**

**Email**

APPENDIX B

TEXAS 4-H EQUINE AMBASSADOR SHORT COURSE 2015

IRB APPROVAL LETTER

**DATE:** May 29, 2015

**MEMORANDUM**

**TO:** Kim E Dooley  
ALRSRCH - Agrilife Research - Ag Leadership, Education & Communication

**FROM:** Dr. James Fluckey  
Chair  
TAMU IRB

**SUBJECT:** Expedited Approval

---

**Study Number:** IRB2015-0323D

**Title:** EFFECTS OF THE TEXAS 4-H EQUINE AMBASSADOR PROGRAM ON 4-H YOUTH AND THE PERCEIVED IMPACT ON LEADERSHIP SKILLS, CAREER DEVELOPMENT AND EQUINE PRODUCTION KNOWLEDGE

**Approval Date:** 05/29/2015

**Continuing Review Due:** 04/15/2016

**Expiration Date:** 05/15/2016

**Documents Reviewed and Approved:**

Submission Components			
Study Document			
Title	Version Number	Version Date	Outcome
Proposal Draft 2- Megan Capeheart	Version 1.0	05/15/2015	Approved
Revised Equine Ambassador Exam	Version 1.0	05/14/2015	Approved
Self-Assessment	Version 1.0	05/14/2015	Approved
Consent - Parental Permission Form - 05-21-15	Version 1.1	05/14/2015	Approved
Site Authorization	Version 1.0	05/26/2015	Approved
Minor consent	Version 1.0	05/15/2015	Approved

**Document of Consent:** Written consent in accordance with 45 CF 46.116/ 21 CFR 50.27

---

**Comments:** This study has been approved.

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This research project has been approved. As principal investigator, you assume the following responsibilities:

1. **Continuing Review:** The protocol must be renewed by the expiration date in order to continue with the research project. A Continuing Review application along with required documents must be submitted by the continuing review deadline. Failure to do so may result in processing delays, study termination, and/or loss of funding.
2. **Completion Report:** Upon completion of the research project (including data analysis and final written papers), a Completion Report must be submitted to the IRB.
3. **Unanticipated Problems and Adverse Events:** Unanticipated problems and adverse events must be reported to the IRB immediately.
4. **Reports of Potential Non-compliance:** Potential non-compliance, including deviations from protocol and violations, must be reported to the IRB office immediately.
5. **Amendments:** Changes to the protocol must be requested by submitting an Amendment to the IRB for review. The Amendment must be approved by the IRB before being implemented.
6. **Consent Forms:** When using a consent form or information sheet, you must use the IRB stamped approved version. Please log into iRIS to download your stamped approved version of the consenting instruments. If you are unable to locate the stamped version in iRIS, please contact the office.
7. **Audit:** Your protocol may be subject to audit by the Human Subjects Post Approval Monitor. During the life of the study please review and document study progress using the PI self-assessment found on the RCB website as a method of preparation for the potential audit. Investigators are responsible for maintaining complete and accurate study records and making them available for inspection. Investigators are encouraged to request a pre-initiation site visit with the Post Approval Monitor. These visits are designed to help ensure that all necessary documents are approved and in order prior to initiating the study and to help investigators maintain compliance.
8. **Recruitment:** All approved recruitment materials will be stamped electronically by the HSPP staff and available for download from iRIS. These IRB-stamped approved documents from iRIS must be used for recruitment. For materials that are distributed to potential participants electronically and for which you can only feasibly use the approved text rather than the stamped document, the study's IRB Protocol number, approval date, and expiration dates must be included in the following format: TAMU IRB#20XX-XXXX Approved: XX/XX/XXXX Expiration Date: XX/XX/XXXX.
9. **FERPA and PPRA:** Investigators conducting research with students must have appropriate approvals from the FERPA administrator at the institution where the research will be conducted in accordance with the Family Education Rights and Privacy Act (FERPA). The Protection of Pupil Rights Amendment (PPRA) protects the rights of parents in students ensuring that written parental consent is required for participation in surveys, analysis, or evaluation that ask questions falling into categories of protected information.
10. **Food:** Any use of food in the conduct of human subjects research must follow Texas A&M University Standard Administrative Procedure 24.01.01.M4.02.
11. **Payments:** Any use of payments to human subjects must follow Texas A&M University Standard Administrative Procedure 21.01.99.M0.03.

This electronic document provides notification of the review results by the Institutional Review Board.

APPENDIX C

TEXAS 4-H EQUINE AMBASSADOR SHORT COURSE 2015

CONTENT KNOWLEDGE EXAM

Texas 4-H Equine Ambassador Pre/Post Exam  
Circle the answer

1. Which season brings on the most potential for impaction colic?
  - a. spring
  - b. summer
  - c. fall
  - d. winter
2. What percent of the horse's body weight should be consumed in forage each day?
  - a. 1%
  - b. 5%
  - c. 6%
  - d. 7%
3. Where do horses have bacteria/protozoa?
  - a. Frontgut
  - b. Reargut
  - c. Hindgut
  - d. None of the above
4. What is the body condition score threshold for "moderate, ribs showing" and "moderate, no ribs showing?"
  - a. Between 2 and 3
  - b. Between 3 and 4
  - c. Between 4 and 5
  - d. Between 6 and 7
5. Horses have a \_\_\_\_\_ digestive system.
  - a. Ruminant
  - b. Non-ruminant
6. Where do horses get most of their energy? (Circle all that apply)
  - a. Carbohydrates
  - b. Fats
  - c. Water
  - d. Protein
  - e. Amino Acids
  - f. Vitamins
  - g. Minerals
7. The more often your horse eats; the better off it will be from the digestive side of things.
  - a. True
  - b. False

8. What is a by-product of the break down of urea?
  - a. Ammonia
  - b. Dihydrogen Monoxide
  - c. Fecal Matter
  - d. None of the above
9. How long is the estrous cycle of a horse?
  - a. 21 days
  - b. 10 days
  - c. 30 days
  - d. None of the above
10. How much can a 1,000 pound horse eat a day?
  - a. 10 lbs
  - b. 30 lbs
  - c. 5 lbs
  - d. None of the above
11. You should weigh your hay to ensure it is the correct amount.
  - a. True
  - b. False
12. How many horses are in the U.S.?
  - a. 9 billion
  - b. 10 million
  - c. 9 million
  - d. None of the above
13. Why is giving growth hormone to animals that are going into the food chain not dangerous for the consumer?
  - a. It is dangerous
  - b. It is broken down as amino acid
  - c. Consumers need more hormones in their diet
  - d. None of the above
14. Which class of horses is nutrition the most critical for?
  - a. Maintenance
  - b. Working
  - c. Young growing horses
15. What is the recommended amount of forage for horses?
  - a. 10%
  - b. 100%
  - c. 35%
  - d. 75%

16. What is muscle glycogen?
- Bone mass
  - Fat
  - Muscle
  - Animal starch
17. Without starch, the energy and performance of the horse will be reduced how much?
- 50%
  - 10%
  - 100%
18. Which of the following is not a high starch-containing ingredient?
- Corn
  - Soybean Hulls
  - Barley
  - Milo
19. All of the following are ways to determine the quality of hay, EXCEPT:
- Maturity
  - Fertilizer
  - Type
  - All of the above are
20. Why is it important to maintain that horses are livestock?
- Legislative purposes
  - Pleasure purposes
  - Deceive the public
  - More money on tax exemptions
21. What is the correct order for judging halter horses?
- Balance- quality- structural correctness- breed and gender characteristics- muscle
  - Breed and gender characteristics- muscle- quality- structural correctness- balance
  - Balance- structural correctness- quality- muscle- breed and gender characteristics
  - Muscle- structural correctness- quality- breed and gender characteristics- balance
22. Aluminum has a tendency to do what to the horse's mouth?
- Cause slobber
  - Dry it out
  - Nothing
  - Stain

23. What are some arena consultation considerations?
- a. Foundation
  - b. Drainage
  - c. Top layer
  - d. More than one of the above
  - e. None of the above
24. What should you select first?
- a. Forage
  - b. Concentrate
  - c. None of the above
25. What is knowledge?
- a. Gathering of quotes
  - b. Gathering of research
  - c. Gathering of facts
  - d. Gathering of information
26. Knowledge alone is sufficient to get you through life.
- a. True
  - b. False
27. How often do they grease the bearings in the feed mill?
- a. Once a year
  - b. Once a month
  - c. Everyday
  - d. Once a week
28. Can horses utilize urea with the same efficiency that a cow can?
- a. Yes
  - b. No
29. When riding a horse, where is the “gas pedal”?
- a. Bit
  - b. Reins
  - c. Feet
  - d. Hands
30. What is plasticity?
- a. Shrink and swell when water is added
  - b. How stretchy it is
  - c. Plastic tarp
  - d. None of the above

APPENDIX D

TEXAS 4-H EQUINE AMBASSADOR SHORT COURSE 2015

PRE-TEST SELF-ASSESSMENT



### Texas 4-H Equine Experience Pre Self-Assessment Evaluation

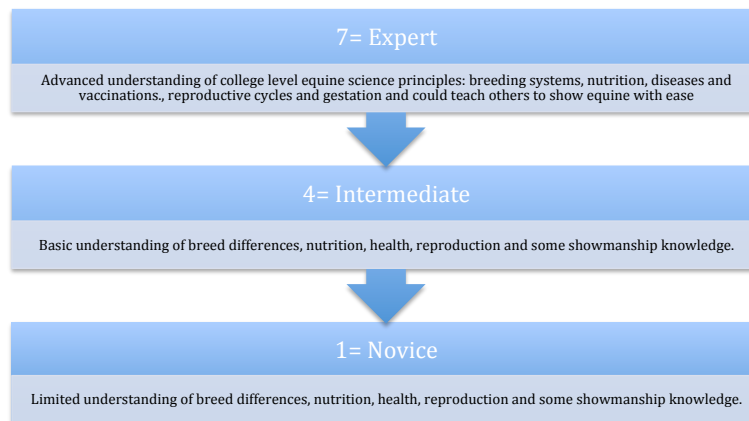
#### Section 1. Self-Assessment in Equine Production Knowledge

A major objective of this study is to investigate the gained advanced equine science knowledge.

Rate your equine production knowledge on a scale of 1-7: 1 being novice knowledge and 7 having expert knowledge. Guidelines for equine production knowledge are outlined below in Section 1.2. Circle one equine knowledge level.

Equine Production	1	2	3	4	5	6	7
-------------------	---	---	---	---	---	---	---

#### Section 1.2. Novice to Expert Model





## Section 2. Careers

A second objective is to determine if the Texas 4-H Livestock Ambassador program enhanced awareness of careers in agriculture. To evaluate this objective the following questions have been formed.

Future in AG Prior to participating in T4HEA Program	Strongly Disagree 1	Disagree 2	Neither Agree Disagree 3	Agree 4	Strongly Agree 5
I will met people that will help my career					
Even if I don't choose a career in animal agriculture, I plan to use skills gained from this program					
I think that my experiences in the program will benefit me in agriculture or any other career					
Before the program I feel I am energized to consider a career in animal agriculture					
I hope to use the experiences from the T4HEA program in pursuing my career					
When I apply for a job, I think it is important to explain my role as a T4HEA in hopes it would show the leadership qualities I hope to experience from the program					
My participation in this program will reveal to employers my leadership					
I currently have a competitive resume					
I am currently aware of career opportunities in animal agriculture					
I think the experience as a T4HEA will develop me into more of a professional in animal agriculture					
I think 4-H generates more advocates for animal agriculture as they enter the workforce					
I have considered what career I wanted to pursue after college before participating in T4HEA					
I currently have a clear understanding of what my career goals are					
I have been exposed to aspects of animal agriculture in the Texas 4-H Programs					
I am aware of the diverse career opportunities in equine agriculture					

I hope to meet faculty members that will assist me in my career					
I think 4-H produces qualified future leaders in Agriculture					

### Section 3. Professional Development

A third objective of the study is to examine leadership skills gained from the program.

The following questions will evaluate leadership skills entering the program and exiting the program. Texas 4-H Equine Ambassador Perception of Leadership.

Professional Development	Strongly Disagree 1	Disagree 2	Neither Agree Disagree 3	Agree 4	Strongly Agree 5
I use leadership skills gained in 4-H programs					
4-H trusts me to be a leader and mentor to novice youth with equine projects					
The youth voice is a powerful tool for advocating and promoting animal agriculture					
I am an advocate for animal agriculture					
Leaders like me will assure that Texas junior horse shows continue for years to come					
I feel that I am qualified to help other youth with equine projects					
This is the most valuable leadership role that I have ever had in the 4-H program					
Ambassadors will be future leaders in state and national animal agriculture					
Teen leaders are valuable in training and supporting novice 4-H families					
The Texas 4-H program will grow the 4-H equine project with the leadership and help of the T4HEA					
With this leadership role I feel like I can make a real difference					
I am a valuable educator for the Texas 4-H program					
I have had more opportunities to be a leader than ever before					
I can lead discussions and lessons on complex topics					
4-H values my service as a leader					
I have more skills to assist novice youth with their projects than other teens that					

are not in the program					
In some cases teen leaders have better skills to teach novice youth adults					
Texas AgriLife Extension Service needs me to assist in the support of novice 4-H families					
I feel that my opinion is valued by others					
I realize that without the help of teen leaders, novice families are more likely to leave our program					
The 4-H program and people in the equine project see me as a professional					
I think the 4-H program should be using more of us to teach and mentor novice families					
The program makes me feel like a professional					
I expect that the curriculum in the short course will be the most difficult of any 4-H program that I have attended in my career					
Texas AgriLife Extension Service should leave the discussions with elected officials about animal agriculture to the adults					
Teen leaders are good at teaching showmanship but should leave the feeding, health, and selection to the adults					
Teens are not qualified to teach novice youth					
I do not feel that the novice 4-H youth look up to me					
I am a good leader					

Section 4. Demographic Information  
Please circle all that apply.

<b>Gender:</b>			
Male	Female		
Years involved in equine projects?			
1-3	4-6	7-9	10-13
<b>What leadership positions have you held in 4-H?</b>			
Club Level	County Level	District Level	State Level
<b>Age:</b>			
14	15	16	17 18
<b>After high school I plan to</b>			
A. go into the workforce.			
B. attend a trade school.			
C. attend junior college.			
D. attend four year university.			

APPENDIX E

TEXAS 4-H EQUINE AMBASSADOR SHORT COURSE 2015

POST-TEST SELF- ASSESSMENT



### Texas 4-H Equine Experience Post Self-Assessment Evaluation

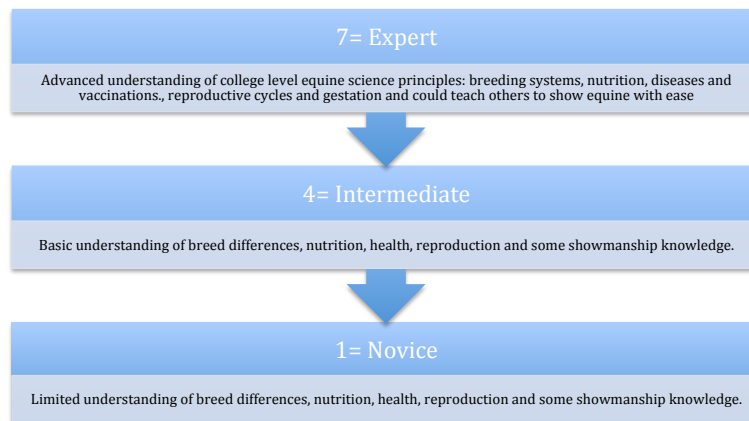
#### Section 1. Self-Assessment in Equine Production Knowledge

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Equine Production	1	2	3	4	5	6	7
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#### Section 1.2. Novice to Expert Model



## Section 2. Careers

A second objective is to determine if the Texas 4-H Livestock Ambassador program enhanced awareness of careers in agriculture. To evaluate this objective the following questions have been formed.

Future in AG Prior to participating in T4HEA Program	Strongly Disagree 1	Disagree 2	Neither Agree Disagree 3	Agree 4	Strongly Agree 5
I have met people that will help my career					
Even if I don't choose a career in animal agriculture, I plan to use skills gained from this program					
I think that my experiences in the program will benefit me in agriculture or any other career					
After the program I feel I am energized to consider a career in animal agriculture					
I hope to use the experiences from the T4HEA program in pursuing my career					
When I apply for a job, I think it is important to explain my role as a T4HEA in hopes it would show the leadership qualities I hope to experience from the program					
My participation in this program will reveal to employers my leadership					
I currently have a competitive resume					
I am currently aware of career opportunities in animal agriculture					
I think the experience as a T4HEA will develop me into more of a professional in animal agriculture					
I think 4-H generates more advocates for animal agriculture as they enter the workforce					
I have considered what career I wanted to pursue after college before participating in T4HEA					
I currently have a clear understanding of what my career goals are					
I have been exposed to aspects of animal agriculture in the Texas 4-H Programs					
I am aware of the diverse career opportunities in equine agriculture					

I have met faculty members that will assist me in my career					
I think 4-H produces qualified future leaders in Agriculture					

### Section 3. Leadership Skills

A third objective of the study is to examine leadership skills gained from the program.

The following questions will evaluate leadership skills entering the program and exiting the program. Texas 4-H Equine Ambassador Perception of Leadership.

Leadership	Strongly Disagree 1	Disagree 2	Neither Agree Disagree 3	Agree 4	Strongly Agree 5
I use leadership skills gained in 4-H programs					
4-H trusts me to be a leader and mentor to novice youth with equine projects					
The youth voice is a powerful tool for advocating and promoting animal agriculture					
I am an advocate for animal agriculture					
Leaders like me will assure that Texas junior horse shows continue for years to come					
I feel that I am qualified to help other youth with equine projects					
This is the most valuable leadership role that I have ever had in the 4-H program					
Ambassadors will be future leaders in state and national animal agriculture					
Teen leaders are valuable in training and supporting novice 4-H families					
The Texas 4-H program will grow the 4-H equine project with the leadership and help of the T4HEA					
With this leadership role I feel like I can make a real difference					
I am a valuable educator for the Texas 4-H program					
I have had more opportunities to be a leader than ever before					
I can lead discussions and lessons on complex topics					
4-H values my service as a leader					



I have more skills to assist novice youth with their projects than other teens that are not in the program					
In some cases teen leaders have better skills to teach novice youth adults					
Texas AgriLife Extension Service needs me to assist in the support of novice 4-H families					
I feel that my opinion is valued by others					
I realize that without the help of teen leaders, novice families are more likely to leave our program					
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I think the 4-H program should be using more of us to teach and mentor novice families					
The program makes me feel like a professional					
I expect that the curriculum in the short course will be the most difficult of any 4-H program that I have attended in my career					
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Teens are not qualified to teach novice youth					
I do not feel that the novice 4-H youth look up to me					
I am a good leader					

Section 4. Demographic Information  
Please circle all that apply.

**Gender:**

Male   Female

Years involved in equine projects?

1-3   4-6   7-9   10-13

**What leadership positions have you held in 4-H?**

Club Level   County Level   District Level   State Level

**Age:**

14   15   16   17   18

**After high school I plan to**

- A. go into the workforce.
- B. attend a trade school.
- C. attend junior college.
- D. attend four year university.

APPENDIX F

TEXAS 4-H EQUINE AMBASSADOR SHORT COURSE 2015

DAILY SCHEDULE

*Texas 4-H Equine Ambassador Short Course Schedule – Day 1*

Time	Topic	Description
12:00- 1:30 p.m.	Registration	Ambassadors register for the weeklong short course. The researcher met with parents and guardians to complete consent forms.
2:00- 3:00 p.m.	Being an Ambassador and Importance of Advocacy	Agriculture specialist lectured in a Q&A format about what it means to be an equine ambassador and how important it is to be a passionate agricultural advocate. Discussion on what ambassadors can do to move our state forward with the appropriate information in the animal health industry.
3:00- 4:00 p.m.	Pre-test Written Examination/ Pre-Test Self Assessment	The exam was 30 questions. The response options were multiple-choice. The pre-test self-assessment was a 5-point likert scale instrument.
4:00- 5:00 p.m.	Reflection and Team Building	Extension professionals discuss the importance of reflection in learning, includes a number of team building activities outdoors.
5:00- 7:30 p.m.	Research Assignments	Extension professionals assign the ambassadors to groups and give them research topics. They discussed research, what it means to be a good researcher and how to begin.

*Note.* Table reflects only educational components of schedule

*Texas 4-H Equine Ambassador Short Course Schedule – Day 2*

Time	Topic	Description
8:00- 8:45am	Texas 4-H Horse Project Opportunities and Expectations	Extension professionals discuss current and future horse project opportunities in 4-H and what the roles of the equine ambassadors have in the 4-H horse projects. Also discussed the high expectations required to be an equine ambassador within 4-H programs.
9:00- 11:00am	Hands on Experiences	Extension professionals and specialists have a real hands-on demonstration of horse safety, showmanship, anatomy and physiology and the importance of role modeling good traits for youth.
1:00- 1:45pm	Nutrition and Feeding	Texas A&M University professor and extension specialist presented a lecture on nutrition of the different stages of growth for the horse and the multiple facts on feeding for performance and breeding.
2:00- 3:15pm	Hay Selection and Analysis	Texas A&M University professor and extension specialist give a hands-on demonstration of choosing the best hay for your horse and how to educate others to do so.
3:15- 4:30pm	Health of a Horse	Reproductive veterinarian presented the over all health of the horse. The presentation included what to look for in a healthy horse versus a sick horse, multiple illnesses and warning signs, and how to properly care for each horse.
4:30- 6:00pm	Non-Verbal Communication and Social Etiquette	A ranch owner discusses the importance of non-verbal communication and social etiquette. As an equine ambassador, it was stressed how important this is within animal advocacy in Texas.
6:00- 7:15pm	Agriculture Issue Research	Extension professionals aid in the equine ambassadors agricultural issue research. They demonstrated the correct use of research and stress the importance of correct referencing.
7:15- 7:50pm	Dinner- Guest Speaker	Horseman, Judge, Horse Breeder, and Lawyer discussed the legal aspects of owning horses and neglect of those in our state. Q&A with the equine ambassadors.

*Note.* Table reflects only educational components of schedule

*Texas 4-H Equine Ambassador Short Course Schedule – Day 3*

Time	Topic	Description
8:00- 9:15 am	Robert Chown Tour	World-renowned horse trainer presentation of facilities.
9:30- 10:30 am	The Horses Hoof and Health	Farrier demonstrates proper hoof health through the life stages of the horse. Discussion on the parts of the hoof and what to look for in a good farrier, Q&A with a professional farrier.
10:45- 11:45 am	Feed Mill Tour	Tour Martindale Feeds, includes a Q&A session with owners.
1:30- 2:30 pm	Soltice Training Center	Horse trainer demonstrates proper training techniques and arena dirt responsibilities and structure.
3:00- 4:00 pm	Petska Performance Equine Rehab	Equine rehabilitation owners discuss the in's and out's of their business. They shared their success story and what it takes to be a professional in the equine world.
4:30- 5:30 pm	JEH Equine Reproductive Specialists	Reproductive specialists lectured on the in's and out's of the equine reproductive system.
6:00- 7:00 pm	Resources and Information	Extension professionals lead a discussion and presentation of using appropriate resources and information in agricultural issue research.

*Note.* Table reflects only educational components of schedule

*Texas 4-H Equine Ambassador Short Course Schedule – Day 4*

Time	Topic	Description
7:30- 9:45 a.m.	Cardinal Ranch Tour	General manager and reining horse trainers demonstrated proper training techniques in and out of the arena, arena care, and horse care during training, and facilities tour.
10:30- 12:00 p.m.	Valor Farm Tour	Extension specialist and professor tours and discuss Valor Farm.
2:00- 2:45 p.m.	Breed Representatives	AQHA professional breed representative presented information about their organization, scholarship information, future career opportunities and the role equine ambassadors play in being rule following, agricultural advocates. Also included discuss on rules and how to approach someone who is mistreating a horse.
2:45- 3:30 p.m.	Breed Representatives	APHA professional breed representative presented information about their organization, scholarship information, future career opportunities and the role equine ambassadors play in being rule following, agricultural advocates. Presented the history of the APHA and what the future is of the organization.
3:30- 4:00 p.m.	Bites and Biting	Bit and spur developer and expert gave hands on demonstration of proper bit position, the array of multiple bits available, when and how to properly use them and how to break bad habits.
4:00- 5:30 p.m.	Skillathon	University professor and extension specialist lead a hands-on evaluation of skills the ambassadors have learned so far.
6:00- 9:00 p.m.	Presentations	Agricultural research presentations begin.

*Note.* Table reflects only educational components of schedule

*Texas 4-H Equine Ambassador Short Course Schedule – Day 5*

Time	Topic	Description
8:00- 9:45 a.m.	Texas 4-H Horse Project Opportunities and Expectations	Extension specialist present many different equine project opportunities and expectations of being a successful equine ambassador.
10:00- 12:00 p.m.	Final Presentations and Expectations	Agricultural issue research presentations conclude. Expectations of being a researcher in the equine industry, facts are everything.
12:00- 12:30 p.m.	Post-Test Written Examinations/ Post-Test Self-Assessment	30 question content exam and post self-assessment.

*Note.* Table reflects only educational components of schedule